

Project Manual
Contract Documents and Specifications

City of Raton
Solid Waste Convenience
Center Project

Project No. COR00011

May 2020



Contracting Agency

The City of Raton
224 Savage Avenue
Post Office Box 910
Raton, New Mexico 87740
(575) 445-9551

The City of Raton
Solid Waste Convenience Center Project
April 2020

Engineer of Record: Kenneth Scott Berry, P.E.
224 Savage Avenue
Raton, New Mexico 87740
Telephone (575) 445-9551

The plans, drawings, specifications, technical materials and related project documents for the City of Raton Solid Waste Convenience Center Project (No. COR00011) were prepared under the supervision and direction of Mr. Kenneth Scott Berry, Registered Professional Engineer in the State of New Mexico whose seal is affixed below:



Kenneth Scott Berry
New Mexico Registration Number 12848
Date: April 7, 2020

Approval:

Neil Segotta
Mayor – City of Raton

April 8, 2020
Date

INSTRUCTIONS TO BIDDERS

1.0 DEFINITIONS AND TERMS

Terms used in these Bidding Documents which are defined in the Instructions to Bidders and in the Conditions of the Contract for Construction (General; Supplementary and other Conditions) have the meanings assigned in those documents.

- 1.1 **Addendum:** A written or graphic instrument issued prior to the opening of Bids which clarifies, corrects, or changes the Bidding Documents or Contract Documents. Plural: addenda.
- 1.2 **Alternate Bid:** Amount stated in the Bid as the sum to be added to or deducted from the amount of the Base Bid, if the corresponding change in the project scope, materials, and/or methods of construction is awarded by the Owner.
- 1.3 **Base Bid:** Amount stated in the Bid as the sum for which the Bidder offers to perform the Work, excluding Alternate Bids and applicable taxes.
- 1.4 **Bid:** The offer of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed in conformance with the Bidding Documents.
- 1.5 **Bid Lot:** A major item of Work for which a separate quotation or bid is requested.
- 1.6 **Bidder:** One who submits a Bid directly to the Owner, as distinct from a subcontractor, who submits a bid to a contractor.
- 1.7 **Bidding Documents:** The Bidding Requirements and the Contract Documents, including drawings.
- 1.8 **Bidding Requirements:** Notice of Invitation for Bid, Prebid Information, Instructions to Bidders, Information Available for Bidders, the Bid Form, Supplements to the Bid Form, and portions of Addenda relating to any of these.
- 1.8.5 **Engineer:** means the person named in the Contract Documents appointed by the Owner to act as the Engineer for the purpose of Contract or any replacement appointed by the Owner.
- 1.9 **Invitation for Bid (IFB):** All documents, including those attached or incorporated by reference, utilized for soliciting sealed bids (§13-1-64 NMSA 1978).

- 1.9.5 **Owner:** The Owner shall be The City of Raton, New Mexico, whose address is 224 Savage Avenue/ Post Office Box 910, Raton, New Mexico 87740
- 1.10 **Responsible Bidder:** A Bidder who submits a Responsive Bid and who has furnished, when required, information and data to prove that his financial resources, production or service facilities, personnel, service reputation, and experience are adequate to make satisfactory delivery of the construction described in the Invitation for Bid (§13-1-82 NMSA 1978).
- 1.11 **Responsive Bid:** A bid which conforms in all material respects to the requirements set forth in the Invitation for Bid (§13-1-84 NMSA 1978).
- 1.12 **Successful Bidder:** The lowest Responsible Bidder to whom the Owner, on the basis of the Owner's evaluation, makes an award. A Successful Bidder does not become the Contractor until an agreement is signed with the Owner.

2.0 EXAMINATION OF BIDDING DOCUMENTS AND SITE

- 2.1 Before submitting a Bid, each Bidder must (a) examine the Bidding Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress, or performance of the Work, (c) familiarize himself with federal, state, and local laws, ordinances, rules and regulations that may in any manner affect cost, progress, or performance of the Work, and (d) study and carefully correlate the Bidder's observations with the Bidding Documents.
- 2.2 On request, the Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his Bid.
- 2.3 The lands upon which the Work is to be performed, rights-of-way for access thereto, and other lands designated for use by the Contractor in performing the Work are identified in the Bidding Documents.
- 2.4 The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Section and that the Bidding Documents are

sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

3.0 BIDDING DOCUMENTS

3.1 COPIES OF BIDDING DOCUMENTS

3.1.1 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Invitation for Bid may be obtained from the Engineer (unless another issuing office is designated in the IFB). Bidding Documents may also be reviewed at the Plan Rooms designated in the Invitation for Bid. The deposit will be refunded to Bidders who submit a bona fide Bid and return the Bidding Documents in good and complete condition within 10 calendar days after opening of Bids.

3.1.2 Complete sets of Bidding Documents shall be used in preparing Bids; neither the Owner nor the Engineer assume responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.1.3 The Owner and the Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3.2 INTERPRETATIONS

3.2.1 All questions about the meaning or intent of the Bidding Documents shall be submitted to the Engineer in writing. Replies will be issued by Addenda mailed or delivered to all parties recorded by the Engineer as having received the Bidding Documents. Questions received less than five days prior to the date for opening of Bids will not be answered. Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

3.2.2 Bidders and Subcontractors shall promptly notify the Engineer of any ambiguity, inconsistency, or error, which they may discover upon examination of the Bidding Documents or of the site and local conditions.

3.3 SUBSTITUTE MATERIAL AND EQUIPMENT

The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or

"or-equal" item of material or equipment may be furnished or used by the Contractor, if acceptable to the Engineer, application for such acceptance will not be considered by the Engineer until after the "effective date of the Contract". The procedure for submittal of any such application by the Contractor and consideration by the Engineer is set forth in the Contract Documents.

3.4 ADDENDA

3.4.1 Addenda will be mailed or delivered to all who are known by the Engineer to have received a complete set of Bidding Documents.

3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

3.4.3 No Addenda will be issued later than 3 days prior to the date for receipt of Bids, except an Addendum withdrawing the Invitation for Bids, or one which includes postponement of the date for receipt of Bids.

3.4.4 Each Bidder shall ascertain, prior to submitting the Bid, that the Bidder has received all Addenda issued, and shall acknowledge their receipt on the Bid Form.

4.0 BIDDING PROCEDURES

4.1 FORM AND STYLE OF BIDS

4.1.1 Bids shall be submitted on forms identical to the form included with the Bidding Documents.

4.1.2 All Blanks on the Bid Form shall be filled in by typewriter or manually in ink.

4.1.3 Where so indicated by the makeup of the Bid Form, sums shall be expressed in both words and figures, and, in case of discrepancy between the two, the amount written in words shall govern.

4.1.4 Any interlineation, alteration, or erasure must be initialed by the signer of the Bid.

4.1.5 All requested Additive or Deductive Alternate Bids shall be bid. If no change in the Base Bid is required, enter "**No Change**" unless otherwise specified. Additionally, the Bidder may submit a lump sum or unit price for all lots for which the Bidder has submitted separate quotations.

4.1.6 Where there are two or more major items of Work (identified as "Bid Lots") for which separate quotations are requested, the Bidder may, at his discretion, submit quotations for any or all items, unless otherwise specified. Additionally, the Bidder may submit a lump sum or unit price for all lots for which the Bidder has submitted separate quotations.

4.1.7 Each copy of the Bid shall include the complete name of the Bidder and a statement that the Bidder is a sole proprietor, a partnership, a corporation, or some other legal entity. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the applicable New Mexico Certificate of Incorporation number or Certificate of Authority number. The Bid shall include the current Contractor's license number and type. A bid submitted by an agent shall have a current Power of Attorney attached certifying the agent's authority to bind the Bidder.

4.1.8 The Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

4.1.9 The address to which communications regarding the Bid are to be directed must be shown.

4.2 BID SECURITY

4.2.1 Bid security in an amount equal to at least five percent of the amount of the Bid shall be a bond provided by a surety company authorized to do business in this State, or the equivalent in cash, a cashier's check, or otherwise supplied in a form satisfactory to the Owner (§13-1-146 NMSA 1978). The bid security shall be in the amount of 5% of the highest Bid amount submitted, unless otherwise stipulated, pledging that the Bidder will enter into a contract with the Owner on the terms stated herein and will furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

4.2.3 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and bonds have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn, or (c) all Bids have been rejected.

4.2.4 When the Bidding Documents require bid security, noncompliance by the Bidder requires

that the Bid be rejected (§13-1-147A NMSA 1978).

4.2.5 If a Bidder is permitted to withdraw his Bid before award, no action shall take place against the Bidder or the bid security (§13-1-147B NMSA 1978).

4.3 PREBID CONFERENCE

4.3.1 A Pre-Bid Conference is scheduled on April 23, 2020 at the Raton Municipal Building located at 224 Savage Avenue in Raton, New Mexico. Pre-Bid Conference is optional for Bidders and is not a mandatory requirement for bid submittal. The Pre-Bid Conference shall commence at 10:00 am in the City Commission chambers and shall include a site inspection of the project site. Individual bidders may schedule an independent site visit or obtain additional information regarding the project by contacting the Raton City Manager at (575) 445-9551.

4.3.2 Prospective Bidders, Subcontractors, and Vendors are encouraged to request clarification of the Bidding Documents. The failure of a Bidder, Subcontractor, or Vendor to request clarification shall be interpreted to mean that the Bidding Documents are clear and acceptable. Such clarity and acceptability shall be presumed with respect to all Bidders.

4.3.3 Questions and requests for clarification are to be presented in written form. Responses will be written and issued as Addenda. No verbal response shall be binding.

4.4 [NOT USED]

4.5 SUBCONTRACTORS

- 4.5.1 The bidder shall list the Subcontractors or material suppliers he proposes to use for all trades or items on the Subcontractor Listing form. If awarded the contract, the Bidder shall use the firm listed, or himself if "General Contractor" has been listed, unless a request for a change or substitution is approved by the Engineer and the Owner for any reason as outlined herein.
- 4.5.2 The Engineer or the Owner shall consider any request for a change in the listed firms, if the Bidder can furnish evidence of being able to perform the Work in a manner more satisfactory and beneficial to both the Owner and the Bidder by not using the listed firm. Satisfactory reasons for a substitution may include the inability to bond or lack of evidence of being able to furnish acceptable materials on schedule. Also, if the Bidder has made a legitimate error in listing a low Subcontractor, a request for substitution, made after the Bid opening with the Engineer's and the Owner's approval, will be considered. The proof of error must be conclusive, based upon the approval of said evidence by the listed Subcontractor or material supplier and/or any other confirmation satisfactory to the Engineer or the Owner.
- 4.5.3 The Bidder shall not list himself as the supplier or as the Subcontractor for any trade unless he has previously performed work of this type or can prove to the Engineer's and the Owner's satisfaction that he actually has, or will obtain, fully adequate facilities and plans to perform the work with his own forces.
- 4.5.4 Omission or non-compliance with the intent of the Subcontractor Listing form will be grounds for considering a Bid as **nonresponsive**.
- 4.5.5 Prior to the award of the Contract, the Engineer will notify the Bidder in writing if either the Owner or the Engineer, after due investigation and written findings of fact, has reasonable and substantial objection to any person or organization on such list. If the Owner or Engineer has reasonable and substantial objection to any person or organization on such list and refuses in writing to accept such person or organization, the Bidder may, at his option, (1) withdraw his Bid, or (2) submit an acceptable substitute Subcontractor with no increase in his Bid Price. In the event of withdrawal under this paragraph, Bid Security **will not** be forfeited.

- 4.5.6 The Successful Bidder shall, within 7 calendar days of notice of the award of a Contract for the Work, submit the following information to the Engineer: (A) A signed list of the proprietary names and the suppliers of principal items or systems of materials and equipment proposed for the Work; and (B) A list signed by all Subcontractors proposed for the principal portions of the Work in accordance with the Subcontractors Listing form submitted with the Bid.
- 4.5.7 The Successful Bidder will be required to establish to the satisfaction of the Engineer and the Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.
- 4.5.8 Persons and organizations proposed by the Bidder and to whom the Owner and the Engineer have made no reasonable objection under the provisions of paragraph 4.5.7 must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Engineer and the Owner.
- 4.5.9 No Successful Bidder shall be required to employ any Subcontractor, other person, or organization against whom he has reasonable objection.
- 4.5.10 The Bidder is specifically advised that any person, for, or other party to whom it is proposed to award a subcontract under this Bid must be acceptable to the Owner after verification of the current eligibility status.

4.6 SUBMISSION OF BIDS

- 4.6.1 Bids shall be submitted at the time and place indicated in the Invitation for Bid and shall be included in an opaque sealed envelope marked with the Project title and name and address of the Bidder. The following shall be submitted with and included as part of the bid forms provided or as otherwise described herein:

Bid Bond/Guarantee (fully executed).
Itemized Bid Proposal Form - Signed, sealed and attested.
Bidder's List Of Subcontractors
Executed Campaign Contribution Disclosure Form
Executed Addenda Form (If Applicable)

- 4.6.2 The envelope shall be addressed to the :
CITY MANAGER, CITY OF RATON
as addressed on the Bid Form. The following
information shall be provided on the front lower
left corner of the Bid envelope:

**SOLID WASTE CONVENIENCE CENTER
PROJECT
PROJECT NO. COR00011
MAY 19, 2020
2:00 PM**

The sealed envelope shall have the notation
"**SEALED BIDS ENCLOSED**" on the face
thereof.

- 4.6.3 Bids received after the date and time for receipt
of Bids will be returned unopened.
- 4.6.4 The Bidder shall assume full responsibility for
timely delivery of Bids at the Purchasing Agent's
office, including those Bids submitted by mail.
Hand-delivered Bids shall be submitted to the
Purchasing Agent or his designee and will be
clocked in at the time received, which must be
prior to the time specified. Bids will then be held
for public opening.
- 4.6.5 Oral, electronic, telephonic, or telegraphic bids
are invalid and will not receive consideration.

4.7 CORRECTION OR WITHDRAWAL OF BIDS

- 4.7.1 A Bid containing a mistake discovered before Bid Opening may be modified or withdrawn by a Bidder prior to the time set for Bid Opening by delivering written or telegraphic notice to the location designated in the Invitation for Bid as the place where Bids are to be received.
- 4.7.2 Bid security shall be in an amount sufficient for the Bid as modified or resubmitted in conformance with paragraph 4.2.
- 4.7.3 Withdrawn Bids may be resubmitted up to the time and date designated for the receipt of Bids.
- 4.7.4 After Bid Opening, no modifications in Bid Prices or other provisions of Bids shall be permitted. A low Bidder alleging a material mistake of fact which makes his Bid nonresponsive may be permitted to withdraw his Bid if: (A) The mistake is clearly evident on the face of the Bid Document; or (B) The Bidder submits evidence which clearly and convincingly demonstrates that a mistake was made. Any decision by the Owner to permit or deny the withdrawal of a Bid on the basis of a mistake contained therein shall be supported by a determination setting forth the grounds for the decision. If withdrawal is permitted, Bid Security **will not** be forfeited (§13-1-106 NMSA 1978).

4.8 NOTICE OF CONTRACT REQUIREMENTS BINDING ON BIDDER

- 4.8.1 In submitting this Bid, the Bidder represents that he has familiarized himself with the nature and extent of the Conditions of the Construction Contract (General, Supplementary, and other Conditions) dealing with federal, state and local requirements which are a part of these Bidding and Contract Documents.
- 4.8.2 Laws and Regulations: The Bidder's attention is directed to all applicable federal and state laws, local ordinances and regulations and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the contract throughout, and will be deemed to be included in the Contract the same as though herein written out in full.

4.9 REJECTION OR CANCELLATION OF BIDS

- 4.9.1 An Invitation for Bid may be canceled, or any or all Bids may be rejected in whole or in part, when it is in the best interest of the Owner. A determination containing the reasons therefore shall be made part of the Project file (§13-1-131

NMSA 1978). Bid security for rejected Bids shall be returned to the Bidder.

4.10 PROTESTS

- 4.10.1 Any Bidder, Offeror, or Contractor who is aggrieved in connection with this procurement (Bid) may protest to the Owner' and the Administrator/Clerk in accordance with the requirements of the Owner's Procurement Regulations and the State Procurement Code. The protest should be made in writing within 24 hours after the facts or occurrences giving rise thereto, but in no case later than 15 calendar days after the facts or occurrences giving rise thereto (§13-1-172 NMSA 1978).
- 4.10.2 In the event of a timely protest under paragraph 4.10.1, the Owner shall not proceed further with the procurement unless the Owner makes a determination that the award of contract is necessary to protect substantial interests of the Owner (§13-1-173 NMSA 1978).
- 4.10.3 The Owner or his designee shall have the authority to take any action reasonably necessary to resolve a protest of an aggrieved Bidder, Offeror, or Contractor concerning procurement. This authority shall be exercised in accordance with adopted regulations, but shall not include the authority to award money damages or attorneys' fees (§13-1-174 NMSA 1978).
- 4.10.4 The Owner or his designee shall promptly issue a determination relating to the protest. The determination shall: (A) State the reasons for the action taken; and (B). Inform the protestant of the right to judicial review of the determination pursuant to §13-1-183 NMSA 1978.
- 4.10.5 A copy of the determination issued under §13-1-175 NMSA 1978 shall immediately be mailed to the protestant and other bidders or offerors involved in the procurement (§13-1-176 NMSA 1978).

5.0 CONSIDERATION OF BIDS

5.1 RECEIPT, OPENING AND RECORDING

- 5.1.1 Bids received on time will be opened publicly and will be read aloud, and an abstract of the amounts of the Base Bid(s) and Alternate Bids or Bid Items, if any, will be made available to the Bidders. Each Bid shall be open to public inspection (§13-1-107 NMSA 1978).

5.2 BID EVALUATION AND AWARD

- 5.2.1 The Owner shall have the right to waive **technical irregularities** in the form of the Bid of the low Bidder, which do not alter the price, quality, or quantity of the construction Bid (§13-1-132 NMSA 1978).

in the numerical order in which they are listed in the Bid Form, as produces a net amount which is **within** the available funds.

- 5.2.4 If the lowest responsible Bid has otherwise qualified, and if there is no change in the original terms and conditions, the lowest bidder may negotiate with the Owner for a lower total bid in order to avoid rejection of all bids for the reason that the lowest bid was up to 10% higher than budgeted project funds. Such negotiation shall not be allowed if the lowest bid was more than 10% over budgeted project funds (§13-1-105 NMSA 1978).
- 5.2.5 Discrepancies in the Bid Form between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies in the multiplication of units of Work and unit prices will be resolved in favor of the correct multiplication sum between the unit of Work and the unit prices.
- 5.2.6 Conditional Bids or Bids with additional terms will not be accepted.
- 5.2.7 Contracts solicited by competitive sealed bids shall require that the bid amount exclude the applicable state gross receipts taxes or applicable local option tax but that the Owner shall be required to pay the applicable tax including any increase in the applicable tax becoming effective after the date the contract is entered into. The applicable gross receipt tax or applicable local option tax shall be shown as a separate amount on each billing or request for payment made under the contract (§13-1-108 NMSA 1978).

- 5.2.2 It is the intent of the Owner to award a contract to the lowest responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. The unreasonable failure of a Bidder to promptly supply information in connection with an inquiry with respect to responsibility is grounds for a determination that the Bidder is not a responsible Bidder (§13-1-133 NMSA 1978). See paragraph 6.5 as to Post-Bid Information that may be required of a Bidder as to qualifications.

- 5.2.3 If the Base Bid is within the amount of funds available to finance the construction contract, contract award will be made to the responsible Bidder submitting the low Base Bid; except that, if sufficient funds are available to fund Alternate Bids, the Owner may award the contract to the responsible Bidder submitting the low combined Bid within the amount of funds available (Base Bid plus or minus alternates). If the award is based on alternates, the Owner shall accept them

5.3 NOTICE OF AWARD

A written Notice of Award shall be issued by the Owner after review and approval of the Bid and related documents by the Owner with reasonable promptness (§13-1-100 and §13-1-108 NMSA 1978).

5.4 IDENTICAL BIDS

- 5.4.1 When two or more of the Bids submitted are identical in price and are the low bid, the Purchasing Agent or the Owner may: (A) Award pursuant to the multiple source award provisions of §13-1-153 and §13-1-154 NMSA 1978; (B) Award by lottery to one of the identical low Bidders; (C) Reject all Bids and re-solicit Bids for the required construction (§13-1-110 NMSA 1978).

Note: Identical Bids for Resident Contractors or Resident Manufacturers are not allowed under federal funding regulations.

5.5 CANCELLATION OF AWARD

When in the best interest of the public, the Owner may cancel the award of any contract at any time before the execution of said contract by all parties without liability against the Owner.

6.0 POST-BID INFORMATION

6.1 SUBMITTALS TO ENGINEER

Within seven (7) days after Notice of Award, the following shall be submitted to Engineer: (A) The required bonds and certificates of insurance; (B) The requirements under subparagraph 4.5.6; and (C) A brief resume of the successful bidder's Superintendent.

6.2 RETURN OF BID SECURITY

All Bid Security in the form of checks, except those of the two lowest Bidders, will be returned immediately following the opening and checking of the Bids. The retained Bid Security of the unsuccessful of the two lowest Bidders, if in the form of a check, will be returned within fifteen (15) days following the award of the contract. The retained Bid Security of the Successful Bidder, if in the form of a check, will be returned after a satisfactory contract bond has been furnished and the contract has been executed. Bid Securities in the form of Bid Bonds will be returned only upon the request of the unsuccessful Bidder, but will be released by the Purchasing Agent after the Notice of Award is sent by the Owner.

6.3 EXECUTION AND APPROVAL OF CONTRACT

The Contract shall be signed by the Successful Bidder and returned, together with both the Contract Bonds and Certificate of Insurance, within fifteen (15) calendar days after the date of the Notice of Award. If the Contract is not executed by the Owner within thirty (30) days following receipt from the Bidder of the signed Contract, with Bonds and Certificates, the Bidder shall have the right to withdraw his bid without penalty. No Contract shall be effective until it has been fully executed by all of the parties thereto.

6.4 NOTICE TO PROCEED

The Owner will issue a written Notice to Proceed to the Contractor stipulating the date from which Contract Time will be charged and the date Contract Time is to expire, subject to valid modifications of the Contract authorized by Change Order.

6.5 FAILURE TO EXECUTE CONTRACT

Failure to return the signed Contract with acceptable Contract Bonds and Certificate of Insurance within fifteen (15) calendar days after the date of the Notice of Award shall be "**just cause**" for the cancellation of the award and the

forfeiture of the bid security, which shall become the property of the Owner, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible Bidder, or the work may be re-advertised and constructed under contract or otherwise, as the Owner may decide.

6.6 CONTRACTOR'S QUALIFICATION STATEMENT

Bidders to whom award of a Contract is under consideration shall submit, upon request, information and data to prove that their financial resources, production or service facilities, personnel, and service reputation and experience are adequate to make satisfactory delivery of the construction described in the Bidding Documents (§13-1-82 NMSA 1978).

BID PROPOSAL FORM

BID PROPOSAL FORM

Project: Solid Waste Convenience Center Project
Project No. COR00011
Tuesday, May 19, 2020 at 2:00 PM

Bid submitted to: The City of Raton
224 Savage Avenue
Post Office Box 910
Raton Municipal Building
Raton, New Mexico 87740
(575) 445-9551

Bidder is instructed to complete Bid Schedule, inclusive of all items.

Gentlemen:

The undersigned bidder, having examined the requirements of the project, documents relating to the project (including Invitation to Bid, Form of Bid Bond, Form of Contract, Form of Performance and Payment Bond or Bonds, and Addenda, if applicable) and conditions and characteristics of the work, and having familiarized himself/ themselves with project locations, hereby proposes to furnish all materials, tools, equipment, shipping, overhead, profit, bonds, transportation, insurance, mobilization, demobilization and appurtenances and to perform all labor, supervision, administration, management, work, and all other costs necessary for the complete construction of the work described and in accordance with attached project documents, applicable specifications and codes and to contract for the fixed bid price itemized as follows:

**Subtotal of Fixed Base Bid, Excluding
New Mexico Gross Receipts Tax**

**New Mexico Gross Receipts Tax @ 8.5083%
Of Subtotal Above (NMGRT)**

Total Bid Amount – Fixed Base Bid plus NMGRT

Note – The basis for award of the Construction Contract shall be the lowest responsive Base Bid Amount without New Mexico Gross Receipts Tax.

Fixed Price Bid:

The Bidder agrees to provide and construct the project generally consisting of (but not limited to) site layout and construction phase surveying, earthwork grading and leveling building site, construction of deep drilled shaft and beam foundation, stepped concrete floor, erection of 120 feet x 120 feet pre-engineered steel building, installation of service utility lines, electrical service and lighting.

Base bid will include all labor, materials, equipment, tools, and appurtenances necessary to provide the complete services outlined within this contract and scope of work.

The Owner agrees to provide the following materials:

1. Structural pre-engineered steel building components consisting generally of columns, trusses, purlins, girts, and wall and roof sheeting.
2. Nine (9) commercial sectional steel doors with openers and accessories.
3. Two (2) commercial metal building doors.
4. Construction phase testing including subgrade/ foundation soil moisture/ density testing, ASTM C136, ASTM D698, concrete slump, air content, and compressive strength.

As further consideration for the award of the contract, the undersigned agrees to the following terms, conditions and acknowledgements:

- A. The City of Raton reserves the right to reject any or all bids, to waive any informalities, or to accept any portion of the bid as is in the best interest of the City of Raton.
- B. To execute the standard form of contract and to furnish Performance Bond in the amount of One Hundred Percent (100%) of the total bid amount, Payment Bond in the amount of One Hundred Percent (100%) of the total bid amount and Certificates of Insurance within fifteen (15) days following receipt of notification of acceptance of this proposal, and failing to do so, to forfeit the accompanying bid bond to The City of Raton as liquidated damages, and the City of Raton may proceed to award the contract to others.
- C. The City of Raton reserves the right to increase or decrease any or all quantities or revise scope of work as in the best interest of the City of Raton.
- D. To commence work within 30 calendar days following execution of the contract, or such additional time as may be allowed in writing by the City of Raton, and to complete the contract as awarded within 180 calendar days. Liquidated Damages in the amount of two hundred dollars (\$200.00) per consecutive calendar day shall be paid by the Contractor to the Owner for each calendar day in excess of the 180 calendar day construction time.
- E. The Bidder has examined the site, the project documents, drawings, details, bid quantities, terms and conditions of the proposed Agreement and is satisfied to conditions, regulations and requirements that may affect cost, progress and performance of the Work. The Contractor does not consider additional examination, investigation, tests, studies or data necessary for performance of the Work at contract unit prices, in accordance with terms and conditions of the Contract Documents, and within stated contract times. Contractor agrees that Contract Documents are generally sufficient to indicate and convey understanding of all terms, conditions and requirements for performance and furnishing of the Work.
- F. In accordance with NMSA 13-4-13.1.1., the contractor or subcontractor(s) for a public works project that is subject to the Public Works Minimum Wage Act [13-4-10 NMSA 1978], serving as a prime contractor or not, shall be registered with the Labor and Industrial Division of the Labor Department in order to submit a bid valued at more than fifty thousand dollars (\$50,000). Sealed bids received that are not compliant with this provision shall be subject to rejection by the Owner.
- G. The City of Raton shall consider and apply provisions of NMSA 13-4-2 regarding Certified New Mexico Resident Contractor and NMSA 13-1-21/ 13-1-22 regarding Certified Veterans Preference in this procurement.

Bidder acknowledges receipt of the addenda: _____

The bid security in the sum of _____

Dollars (_____) in the form of _____, is
submitted herewith in accordance with the specification.

Dated this _____ Day of _____, 2020

Respectfully Submitted:

Firm Name: _____

By (Signature and Print Name): _____

Title: _____

Business Address: _____

Business Telephone: _____

N. M. Contractor's License
Number & Classification: _____

New Mexico Department of Labor
Labor Enforcement Registration Number _____

New Mexico Resident Contractor
Certification Number
(If Applicable; NMSA 13-4-2) _____

New Mexico Veterans Preference
Certification Number
(If Applicable; NMSA 13-1-21/ 13-1-22) _____

Contractor's Federal I.D. Number: _____

ATTEST: _____

Secretary
(If Applicable)

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (Name and Address):

SURETY (Name, and Address of Principal Place of Business):

OWNER (Name and Address):

BID

Bid Due Date:

Description (Project Name— Include Location):

BOND

Bond Number:

Date:

Penal sum _____

\$ _____

(Words)

(Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

(Seal)

(Seal)

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By:

Signature

By:

Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest:

Signature

Attest:

Signature

Title

Title

Note: Addresses are to be used for giving any required notice.

Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.



STATE OF NEW MEXICO
NEW MEXICO DEPARTMENT OF
WORKFORCE SOLUTIONS
Labor Relations Division
121 Tijeras Ave NE, Suite 3000
Albuquerque, NM 87102
www.dws.state.nm.us

PUBLIC WORKS PROJECT REQUIREMENTS

As a participant in a Public Works project valued at more than \$60,000 in the State of New Mexico, the following list addresses many of the responsibilities that are defined by statute or regulation to each project stakeholder.

Contracting Agency

- Ensure that all Contractors wishing to bid on a Public Works project when the project is \$60,000 or more are actively registered with the Public Works and Apprenticeship Application (PWAA) website: <http://www.dws.state.nm.us/pwaa> (Contractor Registration) prior to bidding.
- Please submit Notice of Award (NOA) and Subcontractor List(s) to the PWAA website promptly after the project is awarded.
- Please update the Subcontractor List(s) on the PWAA website whenever changes occur.
- All Sub-Contractors and tiers (excluding professional services) regardless of contract amount must be listed on the Subcontractor List and must adhere to the Public Works Minimum Wage Act.
- Ninety days after project completion please go into the PWAA system and close the project. Only Contracting Agencies are allowed to close the project. Agents or Contractors are not allowed to close projects.

General Contractor

- Provide a complete Subcontractor List and Statements of Intent (SOI) to Pay Prevailing Wages for all Contractors, regardless of amount of work, to the Contracting Agency within 3 (three) days of award.
- Ensure that all Subcontractors wishing to bid on a Public Works project have an active Contractor Registration with the Public Works and Apprenticeship Application (PWAA) website: <http://www.dws.state.nm.us/pwaa> prior to bidding when their bid will exceed \$60,000.
- Submit weekly certified payroll bi-weekly to the Contracting Agency.
- Make certain the Public Works Apprentice and Training Act contributions are paid either to an approved Apprenticeship Program or to the Public Works Apprentice and Training Fund.
- Confirm the Wage Rate poster, provided in PWAA, is displayed at the job site in an easily accessible place.
- Make sure, when a project has been completed, the Affidavits of Wages Paid (AWP) are sent to the Contracting Agency.



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- All Subcontractors and tiers (excluding professional services) regardless of contract amount must be listed on the Subcontractor List and must adhere to the Public Works Minimum Wage Act.

Subcontractor

- Ensure that all Subcontractors wishing to bid on a Public Works project have an active Contractor Registration with the Public Works and Apprenticeship Application (PWAA) website: <http://www.dws.state.nm.us/pwaa> prior to bidding when their bid will exceed \$60,000.
- Submit weekly certified payroll bi-weekly to the General Contractor(s).
- Make certain the Public Works Apprentice and Training Act contributions are paid either to an approved Apprenticeship Program or to the Public Works Apprentice and Training Fund.
- All Subcontractors and tiers (excluding professional services) regardless of contract amount must be listed on the Subcontractor List and must adhere to the Public Works Minimum Wage Act.

Additional Information

Reference material and forms may be found at New Mexico Department of Workforce Solutions Public Works web pages at: <https://www.dws.state.nm.us/Labor-Relations/Labor-Information/Public-Works>.

CONTACT INFORMATION

Contact the Labor Relations Division for any questions relating to Public Works projects by email at public.works@state.nm.us or call (505) 841-4400.



TYPE "B" – GENERAL BUILDING

Effective January 1, 2020

Trade Classification	Base Rate	Fringe Rate	Apprenticeship
Asbestos Workers/Heat and Frost insulators	32.26	12.06	0.60
Asbestos Workers/Heat and Frost insulators-Los Alamos County	34.69	12.06	0.60
Boilermaker/ blacksmith	34.97	28.85	0.60
Bricklayer/Block layer/Stonemason	24.46	8.81	0.60
Carpenter/Lather	24.63	11.24	0.60
Carpenter-Los Alamos County	27.80	13.19	0.60
Millwright/ pile driver	33.16	25.24	0.60
Cement Mason	21.07	10.33	0.60
Electricians-Outside Classifications-Zone 1			
Ground man	23.27	12.67	0.60
Equipment Operator	33.39	15.35	0.60
Lineman/Tech	39.28	16.91	0.60
Cable Splicer	43.21	17.95	0.60
Electricians-Outside Classification: Zone 2			
Ground man	23.27	12.67	0.60
Equipment Operator	33.39	15.35	0.60
Lineman/ technician	39.28	16.91	0.60
Cable Splicer	43.21	17.95	0.60

Electricians-Outside Classifications: Los Alamos			
Ground man	23.94	12.85	0.60
Equipment Operator	34.35	15.60	0.60
Lineman/ Technician	40.41	17.21	0.60
Cable Splicer	44.45	18.28	0.60
Electricians-Inside Classifications: Zone 1			
Wireman/ low voltage technician	32.70	11.18	0.60
Cable Splicer	35.97	11.28	0.60
Electricians-Inside Classification: Zone 2			
Wireman/ low voltage technician	35.64	11.27	0.60
Cable Splicer	38.91	11.37	0.60
Electricians-Inside Classification: Zone 3			
Wireman/ low voltage technician	37.61	11.33	0.60
Cable Splicer	40.88	11.43	0.60
Electricians-Inside Classification: Zone 4			
Wireman/ low voltage technician	41.20	11.44	0.60
Cable Splicer	44.47	11.53	0.60
Electricians-Inside Classification: Los Alamos			
Wireman/ low voltage technician	37.61	13.21	0.60
Cable Splicer	40.88	13.47	0.60
Elevator Constructor	43.80	35.25	0.60
Elevator Constructor Helper	35.04	35.25	0.60
Glazier			
Journeyman/ Fabricator	20.25	5.35	0.60

Delivery Driver	9.00	5.35	0.60
Ironworker	27.00	15.75	0.60
Painter (Brush/Roller/Spray)	17.00	6.88	0.60
Paper Hanger	17.00	6.88	0.60
Drywall- Light Commercial & Residential			
Ames tool operator	25.08	7.10	0.60
Hand finisher/machine texture	24.08	7.10	0.60
Plasterer	23.17	8.99	0.60
Plumber/Pipefitter	30.76	11.62	0.60
Roofer	25.23	7.97	0.60
Sheet metal worker			
Zone 1	31.03	17.26	.60
Zone 2 – Industrial	32.03	17.26	.60
Zone 3 – Los Alamos	33.03	17.26	.60
Soft Floor Layer	19.94	17.26	0.60
Sprinkler Fitter	30.90	22.29	0.60
Tile Setter	24.46	8.81	0.60
Tile Setter Helper/Finisher	16.53	8.81	0.60
Laborers			
Group I- Unskilled and semi-skilled	17.50	6.27	0.60
Group II- Skilled	18.50	6.27	0.60
Group III- Specialty	20.75	6.27	0.60
Masonry Laborers			
Group I- Unskilled and Semi-Skilled	18.00	6.27	0.60
Group II- Skilled	19.75	6.27	0.60
Group III- Specialty	20.25	6.27	0.60
Reinforcing iron workers and post tension	24.00	6.27	0.60



Operators			
Group I	20.95	7.27	0.60
Group II	23.11	7.27	0.60
Group III	23.57	7.27	0.60
Group IV	24.01	7.27	0.60
Group V	24.20	7.27	0.60
Group VI	24.41	7.27	0.60
Group VII	24.52	7.27	0.60
Group VIII	27.56	7.27	0.60
Group IX	29.95	7.27	0.60
Group X	33.35	7.27	0.60
Truck Drivers			
Group I-VII	16.45	7.87	0.60
Group VIII	16.51	7.87	0.60
Group IX	18.45	7.87	0.60

NOTE: All contractors are required to pay SUBSISTENCE, ZONE AND INCENTIVE PAY according to the particular trade. Details are located in a PDF attachment at WWW.DWS.STATE.NM.US. Search Labor Relations/Labor Information/Public Works/Prevailing Wage Rates.

For more information about the Subsistence, Zone, and Incentive Pay rates, or to file a wage claim, contact the Labor Relations Division at (505) 841-4400 or visit us online at www.dws.state.nm.us.

NOTICE REGARDING CERTIFIED NM RESIDENT CONTRACTOR AND CERTIFIED VETERANS PREFERENCE IN THIS PROCUREMENT

The City of Raton shall consider and apply provisions of NMSA 13-4-2 regarding Certified NM Resident Contractor and NMSA 13-1-21/13-1-22 regarding certified Veterans Preference in this procurement.

Bidders must include a copy of their preference certificate with their bid. Certificates for preferences must be obtained through the New Mexico Department of Taxation & Revenue:

<http://www.tax.newmexico.gov/Businesses/in-state-veteran-preference-certification.aspx>.

Preference percentages will be determined pursuant to the statutes as follows:

1. **New Mexico Resident Contractor Preference**
If the Contractor has provided their Preference Certificate the Preference Points for a New Mexico Resident Contractor is 5%
2. **New Mexico Resident Veteran Business Preference**
10% for annual gross revenues up to \$3M (prior year revenue)

An Agency shall not award a business both a resident contractor preference and a resident veterans preference.

RESIDENT BUSINESS/CONTRACTOR PREFERENCE FORM

For a resident business/contractor preference the State of New Mexico Taxation and Revenue Department certification of eligibility MUST be attached. If an offer is received without a copy of the appropriate State of New Mexico Taxation and Revenue Department issued Certification attached, the preference will not be applied. **PREFERENCE CERTIFICATION(S) WILL NOT BE ACCEPTED AFTER THE DEADLINE FOR RECEIPT OF BIDS OR PROPOSALS.**

(IMPORTANT: State of New Mexico Taxation and Revenue Department issued certification MUST be attached to this form to receive preference)

Instruction for Resident Business/Contractor Preference: The resident business preference shall be applied to a request for bid or request for proposal for the purchases of goods and services, but only if no offers have been received in response to the solicitation from Offerors eligible for the local preference. (Resident Business Preference not applicable to request for quotes.) The resident contractor preference shall be applied to a request for bid or request for proposal for construction. To obtain the resident business/contractor preference, an Offeror must submit a copy of a valid preference certificate issued by the New Mexico Taxation and Revenue Department along with this completed and signed "Resident Business/Contractor Preference Certification" form.

The Offeror must submit the certificate: the number of the certificate is insufficient. Therefore, the Offeror shall upload the certificate each time an offer is submitted. (Resident business/contractor preference is not applicable for those projects which are federally funded.)

An Offeror **may not** receive both the resident business/contractor preference and the resident veteran business/contractor preference.

This preference will increase the Offeror's score for a request for proposals by five percent (5%) of the actual Ad Hoc Committee's score or for a request for bids reduce the bid by five percent (5%) for award purposes.

_____ (NAME OF BUSINESS) hereby certifies the following in regard to application of the resident business/contractor preference to this procurement:

Offeror has submitted a copy of a valid resident business/contractor certificate with its proposal to receive a resident business/contractor preference pursuant to Sections 13-1-21 or 13-4-2 NMSA 1978, allowing the five percent (5%) preference on this solicitation.

Offeror declares under penalty of perjury that the statement is true to the best of its knowledge and understands that giving false or misleading statements about material fact regarding this matter constitutes a crime.

Resident Business/Contractor
(Must be signature of authorized signatory for the business.)

Date

RESIDENT VETERAN BUSINESS/CONTRACTOR PREFERENCE FORM

For a resident veteran business/contractor preference the State of New Mexico Taxation and Revenue Department certification of eligibility MUST be attached. If an offer is received without a copy of the appropriate State of New Mexico Taxation and Revenue Department issued Certification attached, the preference will not be applied. **PREFERENCE CERTIFICATION(S) WILL NOT BE ACCEPTED AFTER THE DEADLINE FOR RECEIPT OF BIDS OR PROPOSALS.**

(IMPORTANT: State of New Mexico Taxation and Revenue Department issued certification MUST be attached to this form to receive preference)

Instructions for Resident Veteran Business/Contractor Preference: The preference shall be applied to a request for bid or request for proposal for the purchases of goods and services or construction. (Resident Veteran Preference not applicable to request for quotes.) To obtain the resident veteran business/contractor preference, an Offeror must submit a copy of a valid resident veteran business/contractor certificate issued by the New Mexico Taxation and Revenue Department along with this completed and signed "Resident Veteran Business/Contractor Preference Certification" form.

The Offeror must submit the certificate: the number of the certificate is insufficient. Therefore, the Offeror shall upload the certificate each time an offer is submitted. (Resident veteran business/contractor preference is not applicable for those projects which are federally funded.)

An Offeror may receive the resident veteran business/contractor preference but the aggregate for a single award may not exceed 10% of the Ad Hoc Committee's score for a request for proposal, or 10% of the total amount offered for a request for bid.

An Offeror **may not** receive both the resident business/contractor preference and the resident veteran business/contractor preference.

_____ (NAME OF BUSINESS) hereby certifies the following in regard to application of the resident business/contractor preference to this procurement:

Please check one box only:

- I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is less than one million dollars (\$1,000,000) allowing me the ten percent (10%) preference on this solicitation.
- I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is more than one million dollars (\$1,000,000) but less than five million dollars (\$5,000,000) allowing me the eight percent (8%) preference on this solicitation.
- I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is more than five million dollars (\$5,000,000) allowing me the seven percent (7%) preference on this solicitation. (In this scenario, if the offeror also meets the criteria for Small or Local, it will receive three percent (3%) of the balance of the Small and Local preference amounts for an aggregate of ten percent (10%).)

"In conjunction this with procurement and the requirements of this business' application for a resident veteran business/contractor preference under Sections 13-1-21 or 13-4-2 NMSA 1978, when awarded a contract which was on the basis of having such veteran preference, I agree to report to the State Purchasing Division of the General Services Department the awarded amount involved. I will indicate in the report the award amount as a purchase from a public body or as a public works contract from a public body as the case may be."

Offeror declares under penalty of perjury that the statement is true to the best of its knowledge and understands that giving false or misleading statements about material fact regarding this matter constitutes a crime.

Resident Veteran Business/Contractor
(Must be signature of authorized signatory for the business.)

Date

**EJCDC
STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR
ON THE BASIS OF A STIPULATED PRICE**

THIS AGREEMENT is by and between ***The City of Raton***

(hereinafter called OWNER) and _____

(hereinafter called CONTRACTOR).

ARTICLE 1 – WORK

1.01 CONTRACTOR shall complete all work as specified or indicated in the Contract Documents.

The work is generally described as follows: _____

 City of Raton Project No. COR00011 - Solid Waste Convenience Center Project

ARTICLE 2 – THE PROJECT

2.01 The Project for which the work under the Contract Documents may be the whole or only a part is generally described as follows:

The work shall generally consist of layout and construction phase surveying, earthwork grading, filling and leveling of building site, construction of deep drilled shaft and beam foundation, stepped concrete floor, erection of 120 feet x 120 feet pre-engineered steel building, installation of service utility lines, electrical service and lighting.

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by:

***Kenneth Scott Berry, P.E.
New Mexico Professional Engineer Registration No. 12848
224 Savage Avenue
Raton, New Mexico 87740***

who is hereinafter called Design Engineer and who is to act as OWNER’S designated representative, assume all duties and responsibilities, and have the rights and authority to represent OWNER in accordance with the Contract Documents.

3.02 The Owner has retained ***Engineering Analytics, Inc.*** (“Construction Phase Engineer”) to act as Owner’s representative during the Construction Phase , assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents during the Construction Phase.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time is of the Essence*

- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Days to Achieve Substantial Completion and Final Payment*

- A. The work will be substantially completed within 180 days after the date when the Contract Times commence to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions within 180 days after the date when the Contract Times commence to run.

4.03 *Liquidated Damages*

- A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Works is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as penalty), CONTRACTOR shall pay OWNER \$ 200.00 for each day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER \$ 200.00 for each day that expires after the time specified in paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

- 5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

- A. For all Work other than Unit Price Work, a lump sum of: \$.

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.

- B. For all Work, at the prices stated in CONTRACTOR's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by the ENGINEER as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment on or about the 10th day of each month during the performance of the Work as provided in paragraphs 6.02.A.1 and 6.02.A.2 below. All such payments shall be measured by the schedule of values established in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements:
 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER may determine or OWNER may withhold, in accordance with paragraph 14.02 of the General Conditions:
 - a. 100% of Work completed (with the balance being retainage). If the Work has been 50% completed as determined by the ENGINEER, and if the character and progress of the WORK have been satisfactory to OWNER and ENGINEER, OWNER, on recommendation of ENGINEER, may determine that as long as the character and progress of Work remain satisfactory to them, there will be no retainage on account of Work subsequently completed, in which case the remaining progress payments prior to Substantial Completion will be in the amount equal to 100% of the Work completed less the aggregate of payments previously made; and
 - b. 100% of cost of stored materials and equipment not incorporated in the Work (with the balance being retainage).
 2. Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 95% of the Work completed, less such amounts as ENGINEER shall determine in accordance with paragraph 14.02.B.5 of General Conditions and less 100% of ENGINEER's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.07.

ARTICLE 7 – INTEREST

7.01 All monies not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate of 0% per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:
- A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. CONTRACTOR has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.
 - E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.
 - F. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
 - G. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.
 - H. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents,
 - I. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract

Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

- J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 Contents

- A. The Contract Documents consist of the following:
1. The Agreement (pages 1 to 7, inclusive);
 2. Performance Bond (pages 1 to 2, inclusive)
 3. Payment Bond (pages 1 to 2, inclusive);
 4. Other Bonds;
 - a. Bid Bond (pages 1 to 3, inclusive);
 5. General Conditions (pages 1 to 42, inclusive);
 6. Supplementary Conditions (pages 1 to 2, inclusive);
 7. Specifications Supplementary Specifications as listed in the table of contents of the Project Manual;
8. Drawings consisting of a cover sheet and sheets numbered G-1 through C-13, inclusive, with each sheet bearing the following general title City of Raton Solid Waste Convenience Center Project; and applicable detail drawings.
9. Addenda (number _____, inclusive);
 10. Exhibits to this Agreement (enumerated as follows):
 - a. Notice to Proceed (pages _____ to _____, inclusive);
 - b. CONTRACTOR's Bid (pages BPF-1 to BPF-5, inclusive);
 - c. Documentation submitted by CONTRACTOR prior to Notice of Award (_____);
 11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Written Amendments;
 - b. Work Change Directives;
 - c. Change Order(s);

- d. Approved Manufacturer's Specifications, Drawings, Details and Directions
- B. The documents listed in paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 3.05 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

- A. Terms used in this Agreement will have the meanings indicated in the General Conditions.

10.02 *Assignment of Contract*

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Other Provisions*

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR on their behalf.

This Agreement will be effective on _____, _____
(which is the Effective Date of The Agreement).

OWNER:

The City of Raton

By: _____

[CORPORATE SEAL]

Attest _____

Address for giving notices:

Post Office Box 910

224 Savage Avenue

Raton, New Mexico 87740

(If OWNER is a corporation, attach evidence of authority to sign. If OWNER is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of OWNER-CONTRACTOR Agreement.)

Designated Representative:

Name: *Mr. Scott Berry*

Title: *City Manager*

Address: *224 Savage Avenue*

Post Office Box 910

Phone: *(575) 445-9551*

Facsimile: *(575) 445-3398*

CONTRACTOR:

By: _____

[CORPORATE SEAL]

Attest _____

Address for giving notices:

License No. _____
(Where Applicable)

Agent for service of process: _____

(If CONTRACTOR is a corporation or a partnership, attach evidence of authority to sign.)

Designated Representative:

Name: _____

Title: _____

Address: _____

Phone: _____

Facsimile: _____

CAMPAIGN CONTRIBUTION DISCLOSURE FORM

Pursuant to the Procurement Code, Sections 13-1-28, *et seq.*, NMSA 1978 and NMSA 1978, § 13-1-191.1 (2006), as amended by Laws of 2007, Chapter 234, a prospective contractor subject to this section shall disclose all campaign contributions given by the prospective contractor or a family member or representative of the prospective contractor to an applicable public official of the state or a local public body during the two years prior to the date on which a proposal is submitted or, in the case of a sole source or small purchase contract, the two years prior to the date on which the contractor signs the contract, if the aggregate total of contributions given by the prospective contractor or a family member or representative of the prospective contractor to the public official exceeds two hundred fifty dollars (\$250) over the two-year period. A prospective contractor submitting a disclosure statement pursuant to this section who has not contributed to an applicable public official, whose family members have not contributed to an applicable public official or whose representatives have not contributed to an applicable public official shall make a statement that no contribution was made.

A prospective contractor or a family member or representative of the prospective contractor shall not give a campaign contribution or other thing of value to an applicable public official or the applicable public official's employees during the pendency of the procurement process or during the pendency of negotiations for a sole source or small purchase contract.

Furthermore, a solicitation or proposed award for a proposed contract may be canceled pursuant to Section 13-1-181 NMSA 1978 or a contract that is executed may be ratified or terminated pursuant to Section 13-1-182 NMSA 1978 if a prospective contractor fails to submit a fully completed disclosure statement pursuant to this section; or a prospective contractor or family member or representative of the prospective contractor gives a campaign contribution or other thing of value to an applicable public official or the applicable public official's employees during the pendency of the procurement process.

The state agency or local public body that procures the services or items of tangible personal property shall indicate on the form the name or names of every applicable public official, if any, for which disclosure is required by a prospective contractor.

THIS FORM MUST BE INCLUDED IN THE REQUEST FOR PROPOSALS AND MUST BE FILED BY ANY PROSPECTIVE CONTRACTOR WHETHER OR NOT THEY, THEIR FAMILY MEMBER, OR THEIR REPRESENTATIVE HAS MADE ANY CONTRIBUTIONS SUBJECT TO DISCLOSURE.

The following definitions apply:

“Applicable public official” means a person elected to an office or a person appointed to complete a term of an elected office, who has the authority to award or influence the award of the contract for which the prospective contractor is submitting a competitive

sealed proposal or who has the authority to negotiate a sole source or small purchase contract that may be awarded without submission of a sealed competitive proposal.

“Campaign Contribution” means a gift, subscription, loan, advance or deposit of money or other thing of value, including the estimated value of an in-kind contribution, that is made to or received by an applicable public official or any person authorized to raise, collect or expend contributions on that official’s behalf for the purpose of electing the official to statewide or local office. “Campaign Contribution” includes the payment of a debt incurred in an election campaign, but does not include the value of services provided without compensation or unreimbursed travel or other personal expenses of individuals who volunteer a portion or all of their time on behalf of a candidate or political committee, nor does it include the administrative or solicitation expenses of a political committee that are paid by an organization that sponsors the committee.

“Family member” means a spouse, father, mother, child, father-in-law, mother-in-law, daughter-in-law or son-in-law of (a) a prospective contractor, if the prospective contractor is a natural person; or (b) an owner of a prospective contractor;

“Pendency of the procurement process” means the time period commencing with the public notice of the request for proposals and ending with the award of the contract or the cancellation of the request for proposals.

“Prospective contractor” means a person or business that is subject to the competitive sealed proposal process set forth in the Procurement Code [Sections 13-1-28 through 13-1-199 NMSA 1978] or is not required to submit a competitive sealed proposal because that person or business qualifies for a sole source or small purchase contract.

“Representative of a prospective contractor” means an officer or director of a corporation, a member or manager of a limited liability corporation, a partner of a partnership or a trustee of a trust of the prospective contractor.

Name(s) of Applicable Public Official(s) if any: _____
(Completed by State Agency or Local Public Body)

DISCLOSURE OF CONTRIBUTIONS BY PROSPECTIVE CONTRACTOR:

Contribution Made By: _____

Relation to Prospective Contractor: _____

Date Contribution(s) Made: _____

Amount(s) of Contribution(s) _____

Nature of Contribution(s)

Purpose of Contribution(s)

(Attach extra pages if necessary)

Signature

Date

Title (position)

--OR--

NO CONTRIBUTIONS IN THE AGGREGATE TOTAL OVER TWO HUNDRED FIFTY DOLLARS (\$250) WERE MADE to an applicable public official by me, a family member or representative.

Signature

Date

Title (Position)

Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place
of Business):

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

EJCDC No. 1910-28-A (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Contract, which is incorporated herein by reference.
2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.
3. If there is no OWNER Default, the Surety's obligation under this Bond shall arise after:
 - 3.1. The OWNER has notified the CONTRACTOR and the Surety at the addresses described in paragraph 10 below, that the OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with the CONTRACTOR and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the OWNER's right, if any, subsequently to declare a CONTRACTOR Default; and
 - 3.2. The OWNER has declared a CONTRACTOR Default and formally terminated the CONTRACTOR's right to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after the CONTRACTOR and the Surety have received notice as provided in paragraph 3.1; and
 - 3.3. The OWNER has agreed to pay the Balance of the Contract Price to:
 - 3.3.1. The Surety in accordance with the terms of the Contract;
 - 3.3.2. Another contractor selected pursuant to paragraph 4.3 to perform the Contract.
4. When the OWNER has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 4.1. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or
 - 4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR Default; or
 - 4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances;
 - 4.4.1. After investigation, determine the amount for which it may be liable to the OWNER and, as soon as practicable after the amount is determined, tender payment therefor to the OWNER; or
 - 4.4.2. Deny liability in whole or in part and notify the OWNER citing reasons therefor.
5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the OWNER to the Surety demanding that the Surety perform its obligations under this Bond, and the OWNER shall be entitled to enforce any remedy available to the OWNER. If the Surety proceeds as provided in paragraph 4.4, and the OWNER refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.
6. After the OWNER has terminated the CONTRACTOR's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Contract. To a limit of the amount of this Bond, but subject to commitment by the OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:
 - 6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the Contract;
 - 6.2. Additional legal, design professional and delay costs resulting from the CONTRACTOR's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and
 - 6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the CONTRACTOR.
7. The Surety shall not be liable to the OWNER or others for obligations of the CONTRACTOR that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the OWNER or its heirs, executors, administrators, or successors.
8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.
9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after CONTRACTOR Default or within two years after the CONTRACTOR ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
10. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page.
11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Definitions.
 - 12.1. Balance of the Contract Price: The total amount payable by the OWNER to the CONTRACTOR under the Contract after all proper adjustments have been made, including allowance to the CONTRACTOR of any amounts received or to be received by the OWNER in settlement of insurance or other Claims for damages to which the CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of the CONTRACTOR under the Contract.
 - 12.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
 - 12.3. CONTRACTOR Default: Failure of the CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
 - 12.4. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

Payment Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place
of Business):

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

EJCDC No. 1910-28-B (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER to pay for labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to the OWNER, this obligation shall be null and void if the CONTRACTOR:
 - 2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2. Defends, indemnifies and holds harmless the OWNER from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the OWNER has promptly notified the CONTRACTOR and the Surety (at the addresses described in paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the CONTRACTOR and the Surety, and provided there is no OWNER Default.
3. With respect to Claimants, this obligation shall be null and void if the CONTRACTOR promptly makes payment, directly or indirectly, for all sums due.
4. The Surety shall have no obligation to Claimants under this Bond until:
 - 4.1. Claimants who are employed by or have a direct contract with the CONTRACTOR have given notice to the Surety (at the addresses described in paragraph 12) and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2. Claimants who do not have a direct contract with the CONTRACTOR:
 1. Have furnished written notice to the CONTRACTOR and sent a copy, or notice thereof, to the OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from the CONTRACTOR, or not received within 30 days of furnishing the above notice any communication from the CONTRACTOR by which the CONTRACTOR had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to the Surety and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the CONTRACTOR.
5. If a notice required by paragraph 4 is given by the OWNER to the CONTRACTOR or to the Surety, that is sufficient compliance.
6. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
 - 6.1. Send an answer to the Claimant, with a copy to the OWNER, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2. Pay or arrange for payment of any undisputed amounts.
7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
8. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the CONTRACTOR and the Surety under this Bond, subject to the OWNER's priority to use the funds for the completion of the Work.
9. The Surety shall not be liable to the OWNER, Claimants or others for obligations of the CONTRACTOR that are unrelated to the Contract. The OWNER shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
10. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.
11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by paragraph 4.1 or paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the OWNER or the CONTRACTOR, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is, that this Bond shall be construed as a statutory Bond and not as a common law bond.
14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, the CONTRACTOR shall promptly furnish a copy of this Bond or shall permit a copy to be made.
15. DEFINITIONS
 - 15.1. Claimant: An individual or entity having a direct contract with the CONTRACTOR or with a Subcontractor of the CONTRACTOR to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the CONTRACTOR and the CONTRACTOR's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.
 - 15.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
 - 15.3. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

STANDARD
GENERAL CONDITIONS
OF THE
CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and



AMERICAN CONSULTING
ENGINEERS COUNCIL

Issued and Published Jointly By



**National Society of
Professional Engineers**
Professional Engineers in Private Practice



AMERICAN SOCIETY OF
CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN CONSULTING ENGINEERS COUNCIL

AMERICAN SOCIETY OF CIVIL ENGINEERS

This document has been approved and endorsed by

The Associated General



Contractors of America

Construction Specifications Institute



GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the Contract Documents.
2. *Agreement*--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.
3. *Application for Payment*--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
5. *Bid*--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
6. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).
7. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.
8. *Bonds*--Performance and payment bonds and other instruments of security.
9. *Change Order*--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the

Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER's written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. *Contract Price*--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment.

15. *CONTRACTOR*--The individual or entity with whom OWNER has entered into the Agreement.

16. *Cost of the Work*--See paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *ENGINEER*--The individual or entity named as such in the Agreement.

20. *ENGINEER's Consultant*--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. *Field Order*--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. *Notice of Award*--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.

29. *Notice to Proceed*--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. *OWNER*--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. *Partial Utilization*--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. *PCBs*--Polychlorinated biphenyls.

33. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the Contract Documents.

35. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. *Resident Project Representative*--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. *Site*--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. *Specifications*--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. *Subcontractor*--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

44. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

45. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases,

steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. *Unit Price Work*--Work to be paid for on the basis of unit prices.

48. *Work*--The entire completed construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. *Work Change Directive*--A written statement to CONTRACTOR issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

50. *Written Amendment*--A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

1.02 Terminology

A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The

use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

B. Day

1. The word "day" shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

C. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

D. Furnish, Install, Perform, Provide

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, "provide" is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 Starting the Work

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 Before Starting Construction

A. *CONTRACTOR's Review of Contract Documents:* Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. *Preliminary Schedules:* Within ten days after the Effective Date of the Agreement (unless otherwise specified

in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

3. a preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

C. *Evidence of Insurance:* Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.

2.06 *Preconstruction Conference*

A. Within 20 days after the Contract Times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor.

2. CONTRACTOR's schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 *Reference Standards*

A. *Standards, Specifications, Codes, Laws, and Regulations*

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids),

except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER's Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment; (ii) a Change Order; or (iii) a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways: (i) a Field Order; (ii) ENGINEER's approval of a Shop Drawing or Sample; or (iii) ENGINEER's written interpretation or clarification.

3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, including electronic media editions; and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaption by ENGINEER. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER's furnishing the Site, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

B. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *ENGINEER's Review:* After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or

c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including OWNER, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

4.05 *Reference Points*

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property

monuments, and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous

Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefor as provided in paragraph 10.05.

F. If after receipt of such written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing

in this paragraph 4.06.E shall obligate OWNER to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements

of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.

5.04 *CONTRACTOR's Liability Insurance*

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. with respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be

correcting, removing, or replacing defective Work in accordance with paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

5.05 *OWNER's Liability Insurance*

A. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.04, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER;

5. allow for partial utilization of the Work by OWNER;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR, and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.

D. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraph 5.06, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of the Work

at the Site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

5.07 Waiver of Rights

A. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

B. OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of, or resulting from fire or other peril whether or not insured by OWNER; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.05, after Substantial Completion

pursuant to paragraph 14.04, or after final payment pursuant to paragraph 14.07.

C. Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against CONTRACTOR, Subcontractors, ENGINEER, or ENGINEER's Consultants and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by paragraph 5.06 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.08.B. OWNER shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

B. OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either OWNER or CONTRACTOR has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by paragraph 2.05.C. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required

of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 Labor; Working Hours

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER's written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

6.03 Services, Materials, and Equipment

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with

any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. "Or-Equal" Items: If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;

b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under

paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly

required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. *Engineer's Evaluation:* ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until ENGINEER's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. *Special Guarantee:* OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

E. *ENGINEER's Cost Reimbursement:* ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute.

F. *CONTRACTOR's Expense:* CONTRACTOR shall provide all data in support of any proposed substitute or "or-equal" at CONTRACTOR's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or

entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor

or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

6.07 *Patent Fees and Royalties*

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits

and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto, such as plant investment fees.

6.09 *Laws and Regulations*

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in paragraph 10.05.

6.10 *Taxes*

A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not

unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work CONTRACTOR shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work

Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

6.13 *Safety and Protection*

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER's Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR's duties and

responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample

submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. *Submittal Procedures*

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop

Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. *ENGINEER's Review*

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. *Resubmittal Procedures*

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 *Continuing the Work*

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except

as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 *CONTRACTOR's General Warranty and Guarantee*

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or

2. normal wear and tear under normal usage.

B. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

1. observations by ENGINEER;

2. recommendation by ENGINEER or payment by OWNER of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;

4. use or occupancy of the Work or any part thereof by OWNER;

5. any acceptance by OWNER or any failure to do so;

6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;

7. any inspection, test, or approval by others; or

8. any correction of defective Work by OWNER.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them from

and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage:

1. is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom; and

2. is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of an individual or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such individual or entity.

B. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER's Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

ARTICLE 7 - OTHER WORK

7.01 *Related Work at Site*

A. OWNER may perform other work related to the Project at the Site by OWNER's employees, or let other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to CONTRACTOR prior to starting any such other work; and

2. if OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the other work with OWNER's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

C. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If OWNER intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility for such coordination.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 *Replacement of ENGINEER*

A. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer to whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.

8.03 *Furnish Data*

A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.04 *Pay Promptly When Due*

A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations

and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.06 *Insurance*

A. OWNER's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. OWNER's responsibility in respect to certain inspections, tests, and approvals is set forth in paragraph 13.03.B.

8.09 *Limitations on OWNER's Responsibilities*

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. OWNER's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *OWNER'S Representative*

A. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 *Visits to Site*

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER's visits and observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER's visits or observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another

representative or agent to represent OWNER at the Site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Clarifications and Interpretations*

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefor as provided in paragraph 10.05.

9.05 *Authorized Variations in Work*

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefor as provided in paragraph 10.05.

9.06 *Rejecting Defective Work*

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 *Shop Drawings, Change Orders and Payments*

A. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER's authority as to Change Orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

9.08 *Determinations for Unit Price Work*

A. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER's written decision thereon will be final and binding (except as modified by ENGINEER to reflect changed factual conditions or more accurate data) upon OWNER and CONTRACTOR, subject to the provisions of paragraph 10.05.

9.09 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing, in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 *Limitations on ENGINEER's Authority and Responsibilities*

A. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority

or responsibility or the undertaking, exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER's Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change

Directive, a Claim may be made therefor as provided in paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

1. changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER's correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 *Claims and Disputes*

A. *Notice:* Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. Notice of the amount or extent of the Claim, dispute, or other matter with supporting data shall be delivered to the ENGINEER and the other party to the Contract within 60 days after the start of such event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of such Claim, dispute, or other matter). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. *ENGINEER's Decision:* ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER's written decision on such Claim, dispute, or other matter will be final and binding upon OWNER and CONTRACTOR unless:

1. an appeal from ENGINEER's decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. if no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER's written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have with respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the Claim in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. No Claim for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable,

and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

i. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim.

j. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be

considered administrative costs covered by the CONTRACTOR's fee.

2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site.

3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. CONTRACTOR's Fee: When all the Work is performed on the basis of cost-plus, CONTRACTOR's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR's fee shall be determined as set forth in paragraph 12.01.C.

D. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

11.02 Cash Allowances

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR's costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allow-

ances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subject to the provisions of paragraph 9.08.

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

C. OWNER or CONTRACTOR may make a Claim for an adjustment in the Contract Price in accordance with paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

**ARTICLE 12 - CHANGE OF CONTRACT PRICE;
CHANGE OF CONTRACT TIMES**

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 12.01.C).

C. **CONTRACTOR's Fee:** The CONTRACTOR's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR's fee shall be 15 percent;

b. for costs incurred under paragraph 11.01.A.3, the CONTRACTOR's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no

fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the Contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

12.03 *Delays Beyond CONTRACTOR's Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by

Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 *Delays Within CONTRACTOR's Control*

A. The Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 *Delays Beyond OWNER's and CONTRACTOR's Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.06 *Delay Damages*

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. delays caused by or within the control of CONTRACTOR; or
2. delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone for whom OWNER is responsible.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given

to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. OWNER, ENGINEER, ENGINEER's Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;
2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and
3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER's and ENGINEER's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

13.05 *OWNER May Stop the Work*

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop

the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR's use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that

item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR's obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and OWNER shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 *OWNER May Correct Defective Work*

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In

connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors, and ENGINEER and ENGINEER's Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate increase in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefor as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The schedule of values established as provided in paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments*

1. At least 20 days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect OWNER's interest therein, all of which must be satisfactory to OWNER.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. ENGINEER will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

2. ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER's observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

3. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

4. Neither ENGINEER's review of CONTRACTOR's Work for the purposes of recommending payments nor ENGINEER's recommendation of any payment, including final payment, will impose responsibility on ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR's failure to comply with Laws and Regulations applicable to CONTRACTOR's performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of any Liens.

5. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests,

revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Written Amendment or Change Orders;
- c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or
- d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

C. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended will (subject to the provisions of paragraph 14.02.D) become due, and when due will be paid by OWNER to CONTRACTOR.

D. *Reduction in Payment*

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

- a. claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work;
- b. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;
- c. there are other items entitling OWNER to a set-off against the amount recommended; or
- d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld.

OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 *CONTRACTOR's Warranty of Title*

A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibili-

ties pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Use by OWNER at OWNER's option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment*

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

B. *Review of Application and Acceptance*

1. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due*

1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

14.08 *Final Completion Delayed*

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *OWNER May Suspend Work*

A. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes a Claim therefor as provided in paragraph 10.05.

15.02 *OWNER May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. CONTRACTOR's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.07 as adjusted from time to time pursuant to paragraph 6.04);

2. CONTRACTOR's disregard of Laws or Regulations of any public body having jurisdiction;

3. CONTRACTOR's disregard of the authority of ENGINEER; or

4. CONTRACTOR's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in paragraph 15.02.A occur, OWNER may, after giving CONTRACTOR (and the surety, if any) seven days written notice, terminate

the services of CONTRACTOR, exclude CONTRACTOR from the Site, and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by OWNER arising out of or relating to completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses, and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses, and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and, when so approved by ENGINEER, incorporated in a Change Order. When exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

C. Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.03 *OWNER May Terminate For Convenience*

A. Upon seven days written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Contract. In such case, CONTRACTOR shall be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. for all claims, costs, losses, and damages (including but not limited to all fees and charges of

engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. for reasonable expenses directly attributable to termination.

B. CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *CONTRACTOR May Stop Work or Terminate*

A. If, through no act or fault of CONTRACTOR, the Work is suspended for more than 90 consecutive days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within 30 days after it is submitted, or OWNER fails for 30 days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Contract and recover from OWNER payment on the same terms as provided in paragraph 15.03. In lieu of terminating the Contract and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within 30 days after it is submitted, or OWNER has failed for 30 days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may, seven days after written notice to OWNER and ENGINEER, stop the Work until payment is made of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.04 are not intended to preclude CONTRACTOR from making a Claim under paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping the Work as permitted by this paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of paragraphs 9.09 and 10.05, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

TECHNICAL SPECIFICATIONS

PART 1 – GENERAL PROVISIONS

All work shall be performed in accordance with Project Drawings, Specifications, Contract Documents approved submittals and shop drawings, and approved manufacturers recommendations and instructions. Work not covered by Project Drawings Specifications and Contract Documents shall be performed in accordance with New Mexico Department of Transportation Standard Specifications for Highway and Bridge Construction, (Current Edition, including Addenda, Special Provisions, and Supplemental Documents; hereinafter called NMDOT Specifications).

Where differences, conflicts, or discrepancies occur between Project Drawings, Specifications, and Contract Documents and NMDOT Standard Specifications; the Project Specific Drawings, Specifications and Contract Documents shall take precedence and apply to work. Quantities are given only as a guide to contractor; contractor must satisfy and inform himself of required quantities by field verification before submitting bid. Owner reserves the right to make alterations in the work as may be necessary to complete the work as originally intended.

The contractor shall supply designated materials, all labor, equipment, tools, supervision, parts, transportation, hauling and appurtenances, whether or not specifically required or detailed by Project Drawings, Specifications, or Contract Documents, necessary to complete a fully functional project. If additional incidental work or materials are required to fully complete the work that is not specifically described in Project Drawings, Specifications, or Contract Documents, Contractor shall provide incidental work and materials necessary to fully complete the work, with no increase in contract amount or payment to the Contractor by Owner. Where applicable, material manufacturer's recommendations or specifications shall be submitted by the Contractor to the Owner's Project Representative and shall receive written approval for incorporation into the work. If approved, manufacturer's recommendations or specifications shall be fully complied with. Approved manufacturer's recommendations, shop drawings, details or specifications shall be integrated into contract documents as a requirement for construction, unless specifically excepted by the Project Engineer through a written directive.

The Contractor is required to supply qualified and competent labor and supervision capable of completing the requiring work in a timely manner and the necessary equipment in safe and good working condition suitable for the required work. Contractor shall be responsible for protection of the site, work, and materials from adverse effects resulting from weather and environmental conditions, drainage, runoff, groundwater, surface water, traffic, vandalism, equipment damage, or other potentially harmful conditions until final acceptance of the work by Owner. Any damaged work or materials shall be removed and replaced at the Contractor's expense, with no additional cost to Owner. Contractor shall be responsible for safety of workmen, the public, and the Owner or representatives of the Owner.

SUBMITTALS

Submittals – The following submittals will be required and submitted to the Owner's Project Representative.

1. Construction Schedule
2. Schedule of Values
3. Structural Fill Material
4. Concrete
5. Concrete Curing System/ Materials
6. Anchor Rods/ Bolts, Nuts Washers
7. Electrical Components
8. Lighting Components
9. Utility Line System/ Material
10. Select Pipe Bedding Material
11. Safety Plan

Mobilization and Demobilization – Mobilization/demobilization consists of furnishing transportation, labor, materials, equipment, and incidentals necessary to prepare the site of work accordance to project plans and as directed by the Engineer. This includes accomplishing all necessary schedule preparation, public notification, clearing and grubbing, cleaning, survey layout, fees, and permits; and establishment of bonds, insurance, dust control, storm water pollution prevention. Fixed contract Price shall include full compensation for furnishing transportation, labor, materials, tools, equipment, excavation, shoring, backfill and compaction, bypass pumping, traffic control, storm water pollution prevention (SWPPP), debris removal and disposal, and any other incidental costs necessary to complete in place as a fully functioning system in accordance with project plans, specifications, and permits. Provision and implementation of mobilization/demobilization shall be considered incidental and no direct payment will be made.

Utilities – The Contractor shall coordinate the work with any affected public or private utility owner with facilities, structures, lines, wires, pipes or other fixtures and appurtenances in the project area. The Contractor shall provide advance notice of excavation activities to one call notification systems and thereby to underground facilities operators as required by state and federal requirements. The Contractor shall reasonably protect existing utilities, request locations and spots of utilities in a timely manner prior to excavation or disturbance, and shall cooperate with utility owners if relocation or adjustment is necessary.

Construction Sequencing, Safety and Traffic Control - Safety and traffic control shall conform to OSHA and the Manual on Uniform Traffic Control Devices respectively (and other applicable statutory or regulatory authority) and to be the sole responsibility of the contractor. Construction and/ or demolition activities shall be scheduled so as to minimize disturbance and disruption to area residents and traffic. The Contractor is responsible to provide adequate notification to all affected persons prior to street closure or disruption due to construction activities. A Construction Sequence Plan, including public notification plans, shall be submitted by the Contractor to the Owner's Project Representative prior to construction and/ or demolition activities. The plans for traffic control and sequencing of construction must be approved by the Owner's Project Representative prior to commencement of the work. Contractor shall not leave any unattended hazard in the work area and shall provide any temporary measures needed to abate possible hazards when worksite is unattended. Contractor shall provide construction signage and traffic control in order to effectively and safely manage access to area residents, and eliminate hazards continuously throughout the construction phase. Signage and structures required by project drawings shall be considered minimum requirements, and Contractor shall provide additional signage, controls, and measures as necessitated by field conditions. Provision and implementation of safety measures shall be considered incidental and no direct payment will be made.

Appurtenant Work and Materials - Necessary work, materials, equipment and appurtenances needed to complete the project for which there is no bid item shall be considered as incidental. Flood control, dewatering, water bypass, staging, material storage, handling and protection, use of water, electricity, waste hauling and disposal, and construction administration, planning and management by the Contractor are incidental and no direct payment will be made. Necessary work and materials needed to complete the project for which there is no bid item shall be considered as incidental, and shall be provided by the Contractor without additional payment by Owner.

Dust Control - Contractor is responsible for job site dust control. Dust must be controlled at all times as directed by the Owner's Project Representative. The Contractor is responsible for obtaining all necessary construction water, and all costs associated with construction water or other utilities necessary for the prosecution of the work or appurtenant usages.

Ponding of Surface Water – Ponding of surface water will not be permitted at any time during construction. Contractor shall prepare for and implement measures and protections to remove excess surface water that occurs from precipitation, construction related utility incidents, or over-application of construction water.

Materials – The materials used on the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new. Contractor shall provide materials certificates of compliance to the Project Engineer for all materials for all contract items. Contractor shall provide complete documentation to demonstrate compliance of materials with project specifications and applicable standards. Sampling, testing, preparation of mix designs or certified test reports or other compliance activities shall be considered incidental to the work, and no direct payment shall be made from the Owner to the Contractor for these activities.

Storage, handling, and transporting materials, and other similarly appurtenant tasks, shall be considered incidental to the work, and no direct payment shall be made from the Owner to the Contractor for these tasks.

Contractor quality control is the responsibility of the Contractor and is concerned with detecting changes in production, then taking the necessary steps to control the process to correct the change in production. Contractor quality control involves decisions based on the results of random samples of a small fraction of production material. The Contractor shall implement quality control procedures that will effectively monitor material quality and the Contractor shall inform the Project Engineer of material conditions. Quality control shall be considered incidental to the work, and no direct payment shall be made from the Owner to the Contractor for these tasks.

Compliance With Drawings, Specifications and Other Project Documents - All work performed and all material furnished shall be in substantial compliance with the lines, grades, cross-sections, dimensions, tolerances and material requirements indicated on construction drawings, specifications or other project documents.

Specification For Portland Cement Concrete – Portland cement concrete shall conform to the requirements of Section 510, NMDOT Standard Specifications for Class A Concrete. A mix design previously prepared, submitted to and approved by the New Mexico State Highway Department in accordance with Section 510 shall be utilized for all concrete placed on the project. Full documentation of the approved mix design submittal shall be filed with the Owner's Project Representative. All forms shall be inspected and approved by the Owner's Project Representative prior to concrete placement. Concrete shall be properly cured and protected from temperature extremes in accordance with ACI Specifications 305 and 306.

Specification for Compacted Subgrade Material - Following rough grading and excavation, in-situ subgrade/ native soil material shall be re-processed to a minimum depth of 48 inches (or shale/ claystone formation) within the proposed structure perimeter area and within 5 feet of the proposed structure area. Compaction and moisture content required for the reprocessing operation shall meet all specifications detailed in specifications, plans and details. Reprocessing subgrade material shall include excavation, stockpiling, moisture treatment, placement in uncompacted lifts not exceeding 6 inches in thickness, and compaction to specified standards and subgrade elevations.

Subgrade/ native soil material shall be compacted to 95% of standard Proctor (ASTM D-698) density at a controlled moisture content ranging from optimum moisture to +2.00% of optimum moisture. Moisture content shall not vary to less than optimum moisture. Compaction shall be completed with equipment approved by Project Engineer, and shall consist of appropriately sized sheepsfoot or padfoot equipment that is capable of delivering adequate compactive effort.

Specification for Compacted Select or Engineered Fill Material - Work under this item shall include embankment fill provided and placed by Contractor. Backfill material should be well graded granular material that meets the requirements of AASHTO M 145 for soil classifications A-1, A-2, or A-3. Test results shall be submitted for acceptance before any fill is brought on site. In all cases, Owner reserves the right to reject fill material or borrow pits if deemed unacceptable. Review and acceptance letters will be issued by the Owner and/or Project Engineer.

Engineered fill material shall be free of rocks, frozen lumps, and foreign material that can cause hard spots or decompose to create voids. Engineered fill shall be placed such that the soil envelope around the structures shall provide proper lateral support to the structures. Properly placed and compacted fill material shall be critical to proper performance of the pipe arches. No fill material shall be placed, spread, or compacted while it is frozen or thawing, or during unfavorable weather conditions. Previously placed fill, which has been frozen, shall be removed to the depth of freezing prior to the placement of additional fill. When the work is interrupted by heavy rain, fill operations shall temporarily cease and shall not resume until the Project Engineer indicates that the moisture content and density of the previously placed fill meet specifications presented herein.

Engineered fill material at the time of compaction shall be maintained within a range of the optimum moisture content identified as optimum moisture content to plus 2 percent. To the extent practicable, engineered fill material shall be brought to uniform moisture content prior to placement on the fill area. Supplemental water shall be added uniformly by sprinkling and mixing. Equipment and systems utilized to add supplemental water to embankment fill shall be approved by the Project Engineer and all connections and fittings shall be maintained leak-free to prevent leakage and over-watering in isolated areas.

Engineered fill must be placed symmetrically on each side of the structure in six-inch loose lifts. Each lift of embankment fill shall be compacted to not less than 95 percent of the Standard Proctor (ASTM D 698). Compaction shall be uniform throughout the depth of the lift and across the lift surface area. Material shall be continuously monitored such that the fill will be free from pockets, lenses, streaks, or layers of materials differing substantially in texture or gradation from the adjacent fill. The fill shall be placed approximately level across the dam embankment surface in horizontal lifts extending the entire length and width of the embankment.

No deleterious material or oversized material shall be placed within the engineered fill. This material includes organic or vegetative matter, coal, carbonaceous shale, trash, or cobbles, boulders or rock fragments having any dimension exceeding 2 inches. No nested grouping of rock is to be placed that may create voids in the embankment. Such unacceptable material shall be removed to the designated disposal area.

The Contractor shall establish work procedures, including fill placement rates, rolling patterns and watering patterns to achieve consistent and acceptable results. The Contractor shall re-compact material in accordance with prescribed procedures if field tests indicate insufficient densities achieved. The Contractor shall also revise work procedures as necessary to establish effective fill placement and compaction. Borrow excavation and embankment fill areas will be finished to reasonably smooth and uniform surfaces.

Engineered fill material shall be provided, placed, graded and compacted by Contractor. Engineered fill material shall conform to the following gradation requirements:

Sieve Size	Percent Passing
2"	100
No. 4	25-70
No. 200	0-12

Plasticity Index – 12 or less as determined by ASTM D 4318.

The Owner shall provide moisture and density control testing as necessary to ensure adequate and uniform compaction of the dam embankment fill.

The Contractor shall provide and maintain adequate dewatering equipment to remove and dispose of all surface and groundwater from all excavations and trenches or other parts of the work. Each excavation shall be kept dry during the preparation of the subgrade and continually thereafter until the structure to be built is completed to such extent that no damage from hydrostatic pressure, flotation, or other causes will result. If damage should occur from any source whatsoever, the Contractor shall make good all damage and shall replace damaged structures as required by the Engineer. Where work is in soil containing an excessive amount of water, the Contractor shall provide, install, and maintain suitable well points connected to manifolds or reliable pumping equipment and shall so operate them to insure proper construction of the work. The Contractor shall make every effort to prevent sand, sediment, or debris from entering any existing pipe line or conduit which he may use for drainage purposes. The repair or cleaning of drainage structures made necessary by the Contractor's operations shall be performed by and at the expense of the Contractor. All excavations which extend down to or below the static ground water elevations shall be dewatered by lowering and maintaining the ground water surface beneath such excavations a distance of not less than 12 inches below the bottom of the excavation, or as approved by the Engineer. Surface water discharged from the dewatering effort shall be diverted or otherwise prevented from entering excavated areas or trenches to the greatest extent practicable without causing damage to adjacent property. Pumps will be provided by the Contractor and will remain on-site during the entire construction sequence until final acceptance of the completed project by the Owner. Pumps will be adequate in size and capacity to remove all impounded water at the rate necessary to protect the work. The Contractor shall supply all required power at the site for pumps or other equipment.

PREPARATION OF SWPPP; SUBMITTAL OF NOI AND NOT; TEMPORARY EROSION PROTECTION AND SEDIMENT CONTROL – If required by statute, ordinance or regulation, Contractor shall ensure continuous compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 et. seq., as amended by the Water Quality Act of 1987, P.L. 100-4.

If required, Contractor shall obtain permit coverage as required under the provisions of the National Pollutant Discharge Elimination System General Permit for Discharges from Construction Activities. Contractor shall submit Notice of Intent (NOI) as "Operator" of the construction project for which discharges will be covered under this permit. Contractor shall provide Storm Water Pollution Prevention Plan (SWPPP).

The Contractor shall install and maintain erosion and sediment controls throughout the construction phase; stabilize exposed portions of the site; and design, install, and maintain effective pollution prevention measures in order to prevent the discharge of pollutants. The Contractor shall provide required trained personnel, shall provide inspections and documentation, shall implement corrective actions as necessary

The Contractor shall meet conditions required for termination of permit coverage, and shall terminate permit coverage including submission of complete and accurate Notice of Termination (NOT).

SOIL AND MATERIAL TESTING - The Contractor is responsible for testing performed that is considered to be a quality control measure, incidental to the work, and shall not be eligible for payment by the Owner. This item shall not reimburse costs related to pre-construction submittal approval testing. Contractor shall submit 3 original sets of each test report.

TECHNICAL SPECIFICATIONS – PART 2

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**SECTION 01039
COORDINATION AND MEETINGS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Coordination.
- B. Pre-construction meeting.
- C. Progress meetings.
- D. Examination.
- E. Preparation.
- F. Cutting and Patching.
- G. Alteration Project procedures.

1.02 COORDINATION

- A. Contractor shall coordinate scheduling, submittals, and work of the various sections of the Project Manual to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Contractor shall coordinate completion and cleanup of work of separate sections in preparation for Substantial Completion.

1.03 PRE-CONSTRUCTION MEETING

- A. Owner's Representative will schedule a meeting after Notice of Award.
- B. Attendance Required: Owner's Representative, Project Manager, and Contractor.
- C. Agenda
 - 1. Distribution of Contract Documents.
 - 2. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
 - 3. Designation of personnel representing the parties in contract.
 - 4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, change orders, and contract closeout procedures.

5. Scheduling.
- D. Record minutes and distribute copies within seven (7) days after meeting to participants, with two (2) copies to Owner's Representative, Project Manager and participants, and those affected by decisions made.

1.04 PROGRESS MEETINGS

- A. Contractor shall schedule and administer meetings throughout progress of the work at maximum bi-weekly intervals, unless otherwise required by the Owner's Representative.
- B. Contractor shall make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required: Job Superintendent, major subcontractors and suppliers. Owner's Representative, Project Manager and others as appropriate to agenda topics for each meeting. Contractor's representatives shall have authority to bind Contractor to decisions at the meetings.
- D. Agenda:
 1. Review minutes of previous meetings.
 2. Review of Work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems which impede planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review of off-site fabrication and delivery schedules.
 7. Maintenance of progress schedule.
 8. Corrective measures to regain projected schedules.
 9. Planned progress during succeeding work period.
 10. Coordination of projected progress.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Other business relating to Work.
- E. Contractor shall record minutes and distribute copies within seven (7) days after meeting to participants, with two (2) copies to Contracting Officer, Project Manager and participants, and those affected by decisions made.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

- A. As required, convene a preinstallation conference at work site prior to commencing work of installation of components or primary tasks. Require attendance of parties directly affecting, or affected by, work of the specific construction or installation.

Notify Engineer a minimum of five (5) days in advance of meeting date. Review conditions of installation, preparation and installation procedures, and coordination with related work.

- B. Coordinate work with other site contractors involved in the Project as indicated by the Plans and Specifications, or as directed by the Owner.
- C. Contractor shall verify that utility requirement characteristics of operating equipment are compatible with building utilities and coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

END OF SECTION

**SECTION 01050
FIELD ENGINEERING**

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED:

- A. Provide field engineering and surveying services as required for layout and construction of the project as indicated on the Drawings and specified herein.
- B. Provide surveys for record drawings.
- C. Identify project benchmarks.

1.02 QUALITY CONTROL

- A. The Contractor shall employ a qualified Professional Land Surveyor that is acceptable to the Owner. Surveyor shall establish all lines, elevations, reference marks, batterboards, etc., needed by the Contractor or Engineer during the progress of the work, and from time to time to verify such marks by instrument or other appropriate means.
- B. The Contractor shall have responsibility during construction of the Project for the accurate and satisfactory layout, control, measurement and dimensioning required to accurately meet horizontal and vertical location as indicated in Project Documents.
- C. Should the Contractor discover any discrepancy between actual conditions and those indicated, which prevent following good practice or the intent of the Approved Drawings and Specifications, he shall notify the Owner, request clarification and instructions, and shall not proceed with his work until he has received the same from the Owner; provided that such wait does not unduly delay the progress of the work.

1.03 QUALIFICATIONS OF SURVEYOR OR ENGINEER

- A. Qualified engineer or registered land surveyor, acceptable to Contractor and Owner.
- B. Registered professional engineer of the discipline required for the specific service on the Project, if required, licensed in the state in which the project is located.

1.04 SURVEY REFERENCE POINTS

- A. Existing basic horizontal and vertical control points for the Project are those designated on drawings.
- B. Locate and protect control points prior to starting site work and reserve all permanent reference points during construction. Contractor shall:
 - 1. Make no changes or relocations without prior written notice to Engineer.
 - 2. Report to Engineer when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
 - 3. Require surveyor to replace project control points, which may be lost or destroyed. Establish replacements based on original survey control.

1.05 PROJECT SURVEY REQUIREMENTS

- A. Establish a minimum of two permanent benchmarks on site, when not present, referenced to data established by survey control points.
 - 1. Record locations, with horizontal and vertical data, on Project Record Documents
- B. Establish lines and levels, locate and layout, by instrumentation and similar appropriate means:
 - 1. Site improvements
 - a. Stakes for grading, fill and topsoil placement.
 - b. Utility slopes and invert elevations.
 - 2. Batter boards for structures.
- C. From time to time, verify layouts by same methods.

1.06 RECORDS

- A. Maintain a complete, accurate log of all control and survey work, if required, as it progresses.

1.07 SUBMITTALS

- A. Submit name and address of Surveyor and professional engineer to Owner.
- B. On request of Owner, submit documentation to verify accuracy of field engineering work.
- C. Submit certificate signed by registered engineer or surveyor certifying that elevations and locations of improvements are in conformance, or non-conformance, with Contract Documents.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

**SECTION 01060
REGULATORY REQUIREMENTS**

PART 1 GENERAL

1.01 PERMITS AND FEES

- A. See General Conditions.

1.02 CODES AND ORDINANCES

- A. All Contractors shall comply with all applicable codes, ordinances and regulations in effect at the time of bid opening, including, but not necessarily limited to, the following:

Applicable codes, statutes and ordinances
Uniform Building Code
Uniform Plumbing Code
State Department of Labor Requirements
State Department of Health Requirements
State and Federal Safety and Health Laws
NFPA 70 National Electrical Code
NMDOT Standard Specifications for Highway and Bridge Construction
ANSI/AISC 303-16 Code of Standard Practice for Steel Buildings and Bridges
RCSC Specification for Structural Joints Using High-Strength Bolts

- B. Unless otherwise specified, specific references to codes, regulations, standards, manufacturers' instructions, or requirements of regulatory agencies, when used to specify requirements for materials or design elements, shall mean the current edition of each in effect.
- C. If discrepancies occur between these Specifications, local codes, local utility requirements, etc., the most stringent or project specific requirements shall apply.

1.03 CONTRACTOR LICENSING

- A. All Contractors and subcontractors shall be licensed per State of New Mexico statute and administrative code. All expenses and procedures related to licensing shall be the Contractors' responsibility.

END OF SECTION

**SECTION 01110
SUMMARY OF WORK**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Summary of the Work including work by the City, City-furnished Products, work sequence, future work, Contractor use of Premises, special conditions for substantial completion and City occupancy.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- B. Work of the Contract is for construction of the City of Raton Solid Waste Convenience Center.

1.03 CASH ALLOWANCES

- A. Include the following specific Cash Allowances in Contract Price under provision of General Conditions:
1. Material Testing by Qualified Professional Testing Laboratory

1.04 CITY-FURNISHED PRODUCTS

- A. Items Furnished by the City of Raton for construction and fully functional installation by Contractor:
1. Structural pre-engineered steel building components consisting generally of columns, trusses, purlins, girts, and wall and roof sheeting.
 2. Nine (9) commercial sectional steel doors with openers and accessories.
 3. Two (2) commercial metal building doors.
 4. City of Raton shall provide construction phase testing including subgrade/ foundation soil moisture/ density testing, ASTM C136, ASTM D698, concrete slump, air content, and compressive strength.
- B. Contractor's Responsibilities:
1. Arrange and pay for material and component delivery to the site.
 2. Provide all approvals, building permit and permitting activities as required.
 3. Obtain proposals from suppliers and installers and offer recommendations.

4. On notification of selection by Engineer, and/or Owner, execute purchase agreement with designated supplier and installer.
5. Provide construction phase field engineering, surveying, control and layout as required and preparation of as-built construction record drawings.
6. Provide and install at Contractors expense all materials and building components not specifically detailed above in Paragraph A necessary for a fully complete and functional installation, including but not limited to; earthfill, subbase and base course material, engineered/ structural fill, concrete, curing materials, reinforcing materials, ties, anchor bolts, nuts, washers, etc., sealants, screws, hardware and miscellaneous connectors, bollards, bollard sleeves, bumpers, walls, electrical and lighting components, utility components, electrical and utility connections, railing, asphalt, fencing, gate components and all accessories and appurtenances necessary for a complete and fully functional project, whether specifically detailed/ listed or not.
7. Acceptance testing, shop drawings and details, cut sheets, technical data sheets and certification of materials, equipment, components, etc.
8. Promptly inspect Products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.
9. Provide complete building construction and erection, including but not limited to grading, filling and earthwork, building foundation and floors, pre-engineered steel building, insulation, electrical and lighting installation, framed plumbing, heating and mechanical installations, fencing, paving.
10. Handle, store, transport, install, and finish building components, accessories, appurtenances, and products. Arrange for delivery.
11. Contractor shall be responsible for coordination with any subcontractors, suppliers, utilities, or inspectors.
12. Repair or replace damaged items.

1.05 CONTRACTOR USE OF PREMISES

- A. Construction Operations: Limited to the City's rights-of-way provided by the City and areas shown or described in the Contract documents.
- B. Utility Outages and Shutdown: Provide a minimum of 48 hours' notice to the City and private utility companies (when applicable), excluding weekends and holidays, in advance of required utility shutdown. Coordinate all work as required.

1.06 EQUIPMENT AND SYSTEMS MANUALS

- A. For equipment, or component parts of equipment put into service during construction and operated by the Owner, submit documents within 10 days after acceptance.
- B. Each Item of Equipment and Each System: Include a description of the unit or system, and the component parts. Identify the function, normal operating characteristics, and limiting conditions. Include performance curves, with priming data and tests, and complete nomenclature and model number of replaceable parts.
- C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- D. Include color-coded wiring diagrams as installed.
- E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and special operating instructions.
- F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- G. Include a servicing and lubricating schedule, and a list of lubricants required.
- H. Include the manufacturer's printed operation and maintenance instructions.
- I. Include sequence of operation by the controls manufacturer.
- J. Include the original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- K. Include control diagrams by the controls manufacturer as installed.
- L. Include the Contractor's coordination drawings, with color-coded piping diagrams as installed.

1.07 WARRANTY

- A. Comply with warranty requirements in accordance with General Conditions.

1.08 PROJECT RECORD DOCUMENTS

- A. Maintain on the site one set of the following record documents; record actual revisions of the Work for all trades:
 - 1. Drawings.
 - 2. Specifications.

3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed Shop Drawings, Product Data, and Samples.
 6. Manufacturer's instructions for assembly, installation, and adjusting.
- B. Ensure the entries are complete and accurate, enabling future reference by the Owner.
- C. Store the record documents separate from the documents used for construction.
- D. Record information concurrent with the construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product Section description of the actual products installed, including the following:
1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record the actual construction including:
1. Measured horizontal and vertical locations of the underground utilities and appurtenances, referenced to permanent surface improvements. Include the locations and description of any existing utility lines and other existing installations of any kind or description encountered during construction. Note all changes in size, material, location, and elevation of all new or abandoned underground utility lines and pertinent work, including site grading. Document topography and drainage changes. Show the location of all valves, manholes, etc. and include dimensions to permanent features such as building corners. Note direction of each new valve opening. Show clearances between new utilities and existing crossed lines. Locate all bends, thrust blocks, and other restraints.
 2. The placement, size, and type of any fire extinguishers.
 3. Measured locations of internal utilities and appurtenances concealed in the construction.
 4. Field changes of dimension and detail.
 5. Details not on the original Contract drawings.
- G. Legibly marked Specifications, and legibly marked Record Drawings and Shop Drawings shall constitute the Project Record Documents in paper form.
- H. Associated materials including but not limited to the following are also required to be submitted at project close-out: shop drawings and cut sheets, RFIs, correspondence and meeting minutes, construction progress photographs, permits, and certificates including Final Certificate of Occupancy. These materials may be submitted in either paper or PDF digital format, organized by specification number, and clearly labeled. If paper copies are submitted, each box must be clearly labeled as to specific contents.
- I. No review or receipt of Project Record Documents by the Design Agent or the

Owner shall be interpreted as a waiver of any deviation from the Contract Documents or Shop Drawings, or in any way relieve the Contractor from responsibility to perform the Work in accordance with the Contract Documents and the Shop Drawings.

- J. Update the on-site Project Record Documents on a regular basis. Monthly payments will not be processed if Project Record Documents are not maintained up to date.

1.09 ADDITIONAL CONDITIONS FOR SUBSTANTIAL COMPLETION

- A. In addition to requirements outlined in General Conditions, for Contractor to be substantially complete with the Work and call for inspection by Project Manager to confirm, the following conditions must be met or completed:
1. Submit a written certification that the Contract Documents have been reviewed, the Work has been inspected, and that the Work is complete in accordance with the Contract Documents and is ready for the Owner's review.
 2. Provide submittals to Owner that are required by governing or other authorities, including Certificate of Occupancy.
 3. Provide submittals to Owner that are required by the governing or other authorities, including the following closeout documents:
 - a. AIA Document G706 - Contractor's Affidavit of Payment of Debts and Claims
 - b. AIA Document G706A - Contractor's Affidavit of Release of Liens
 - c. AIA Document G707 - Consent of Surety to Final payment
 4. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

**SECTION 01310
CONSTRUCTION SCHEDULES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Within ten (10) days after EFFECTIVE DATE OF AGREEMENT or by the preconstruction conference, the CONTRACTOR shall prepare and submit to the OWNER estimated construction progress schedules for the Work, with sub-schedules of related activities which are essential to the progress of the Work.
- B. Submit revised progress schedules as follows:
 - 1. Weekly: Submit a two-week schedule depicting items of work and general locations for the two weeks succeeding the date of submittal. Needs from Owner (submittal reviews, construction staking, etc) shall be included. This may be in the form of a spreadsheet and shall contain adequate detail to provide clear vision to all of the intended work. The Resident Project Representative shall be notified of variations from this schedule as soon as known and no later than the morning of the effected change.
 - 2. Monthly: With each progress payment request, submit an updated progress schedule as detailed herein. Failure to submit this updated progress schedule or providing a progress schedule that does not represent the true status of the project as determined by the Owner, shall be grounds for a determination that no further progress payments are to be made until Contractor is in full compliance with this section.
- C. OWNER may require CONTRACTOR to add to his plant, equipment or construction forces, as well as increase the working hours, if operations fall behind schedule at any time during the construction period.
- D. Related Requirements Specified Elsewhere.
 - 1. General Conditions.
 - 2. Supplemental General Conditions.
 - 3. Standard Specifications.

1.02 FORM OF SCHEDULES

- A. Prepare schedules in the form of a horizontal bar chart.
 - 1. Provide separate horizontal bar for each trade or operation.
 - 2. Horizontal time scale: Identify the first workday of each week.
 - 3. Scale and spacing: To allow space for notations and future revisions.
 - 4. Maximum sheet size: 11" x 17".
- B. Computer generated schedule. Network analysis system may be utilized in lieu of bar chart.
- C. Format of Listings. The chronological order of the start of each item of work.

1.03 CONTENT OF SCHEDULES

- A. Construction Progress Schedules to include:
 - 1. The complete sequence of construction by activity.
 - 2. The dates for the beginning, and completion of, each major element in each major area of construction,
 - 3. Projected percentage of completion for each item, as of the date on which each scheduled Application for Payment is due.
 - 4. Complete projected progress payment schedule.

- B. Schedule of Submittals for Shop Drawings and Product Data to include:
 - 1. The dates for CONTRACTOR's submittals.
 - 2. The dates approved submittals will be required from the OWNER. Extensions of time for delays in submittal review and distribution will only be allowed as provided for in General Conditions or other applicable Contract Documents and provisions.

- C. Products Delivery Schedule. Show delivery dates for all major items of material and equipment.

1.04 PROGRESS REVISIONS

- A. Indicate progress of each activity to date of submission.

- B. Show changes occurring since previous submission of schedule.
 - 1. Major changes in scope.
 - 2. Activities modified since previous submission.
 - 3. Revised projections of progress and completion.
 - 4. Revisions to projected progress payment schedule.
 - 5. Other identifiable changes.

- C. Provide a narrative report as needed to define:
 - 1. Problem areas, anticipated delays, and the impact on the schedule.
 - 2. Corrective action recommended and its effect.

1.05 SUBMISSIONS

- A. Submit initial schedules within ten (10) days after effective date of Agreement.
 - 1. OWNER will review Schedules and return review copy within ten (10) days after receipt.
 - 2. If required, resubmit within seven (7) days after return of review copy.

- B. Submit revised progress schedules with each Application for Payment.

- C. Number of copies required at each submission:
 - 1. One (1) copy shall be delivered to the OWNER in electronic PDF format.

1.06 DISTRIBUTION

- A. After review, OWNER will distribute electronic copies of schedules to:
 - 1. Resident Project Representative.
 - 2. CONTRACTOR to be kept on file at CONTRACTOR's field office and for his distribution following modifications, if required.
- B. Schedule recipients will report promptly to OWNER and CONTRACTOR, in writing, any problems anticipated by the projections shown on the schedules.

END OF SECTION

**SECTION 01370
SCHEDULE OF VALUES**

PART 1 GENERAL

1.01 SUMMARY

- A. Provide a Schedule of Values (Detailed Cost Allocation breakdown) assigned to the various portions of the work. Owner and Project Manager may request support values given with data that will substantiate their correctness. Schedule of Values will be used as the basis for Contractor's Application for Payment.

1.02 FORM OF SCHEDULE

- A. Use AIA Document G702 and G703, and/or C-620 Contractors Application for Payment. Contractor's standard forms and automated printout equivalent to the AIA/ EJCDC documents will be considered for acceptance upon request by Contractor.
- B. Identify schedule with title of project, project number, name and address of contractor, date of submittal.

1.03 CONTENT OF SCHEDULE

- A. Itemize separate line item cost for each of the following:
1. General Cost Items:
 - a) Performance Bond and Labor and Material Bond.
 - b) Field Supervision and Layout.
 - c) Temporary Utilities, Controls
 2. Division 02 through 33 Cost Items
 - a) Cost for work required by each Section.
 - b) Cost for portion of the work required by a Section when required for proper division of payment or by this specification.
 - c) Unit cost as required by this specification.
- B. Sum of total costs listed in Schedule shall equal total Contract Sum.

1.04 SUBMITTAL

- A. Submit Schedule of Values to Owner a minimum of 15 days prior to submitting first Application for Payment.
1. Owner and Engineer will review Schedule.
 2. Revise Schedule as required by Owner and Engineer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

**SECTION 01500
TEMPORARY FACILITIES**

PART 1 GENERAL

1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Temporary Water: Section 01515.

1.02 CONTRACTOR FURNISHED

- A. Water for construction, fire protection and all field offices.
- B. All gates, barricades, fences, handrails, guardrails, and security required by the Contract or by laws and regulations. Contractor shall maintain pedestrian access. Such access shall include temporary wood sidewalks where necessary. All pedestrian walkways shall be kept clean with sweeping and/or washing.
- C. Sanitary facilities adequate for all workers and complying with all codes and regulations.
- D. Shelter and drying facilities for workmen.
- E. Guards, masks, shields, protective clothing, rain gear, and other equipment required by law, ordinance, labor contracts, OSHA and other regulations for the maintenance of health and safety.
- F. First Aid Kits and equipment required by law and regulations.
- G. At the close of the Contract the Contractor shall:
1. Pay all utility bills.
 2. Remove all electrical, sanitary, gas, telephone, water, offices and any other temporary service equipment that may remain.
 3. Arrange for transfer of electrical, and water accounts to the Owner's name.

END OF SECTION

**SECTION 01515
TEMPORARY WATER**

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Temporary water service.
- B. Maintenance.
- C. Removal.

1.02 SERVICE REQUIREMENTS

- A. Water Quality: Suitable to the purpose.
- B. Source: Arrange with authorities and connect to public utility.

1.03 COSTS

- A. Contractor shall obtain and pay for permits and inspections.
- B. The Contractor shall make arrangements for and provide all necessary facilities for water supply at his own expense.
- C. Contractor shall pay costs of water consumed for normal construction operations, including costs of installations, maintenance and removal of facilities, and shall take measures to conserve usage.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Materials may be new or used but must be adequate for purpose required, sanitary and must not violate requirements of applicable codes.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Raton Water Works shall be contacted to determine if sufficient water is available at the particular time before any use. Rate of use shall be restricted to limits set by Raton Water Works.
- B. Flushing overnight or excessive wasting will not be permitted.
- C. The Contractor shall not operate active hydrants or main valves. Only Raton Water Works personnel are authorized to operate pressurized fire hydrants or valve

isolating the work from active water mains.

3.02 REMOVAL

- A. Completely remove temporary materials and equipment upon completion of construction.

END OF SECTION

**SECTION 01545
PROTECTION AND MAINTENANCE OF WORK AND PROPERTY**

PART 1 GENERAL

1.01 PUBLIC AND PRIVATE PROPERTY

- A. The Contractor shall protect and maintain all underground or aboveground utilities and structures affected by the work and all lawns, shrubs, trees, fences, rockeries, etc., and parking strips or private property crossed by or adjacent to his operation, and any damage shall be repaired and restored by the Contractor to the satisfaction of the Owner.
- B. The Contractor will be responsible for all damage to roads, highways, ditches, bulkheads, walls, bridges, culverts, utilities, barricades, lights, or other property, caused by the work, whether such damage be at the site of the work or caused by transporting or hauling to or from the work; and he shall repair or replace, or arrange for the repair or replacement of all such damage to the satisfaction of the Owner. Any material damaged by the Contractor's operations shall be replaced with new material.
- C. Whenever construction work under this Contract is undertaken on easement, right-of-way, or franchise, all work shall be confined to the limits of such easement, right-of-way, or franchise, and accomplished so as to cause the least amount of disturbance and a minimum amount of damage.

1.02 CARE OF EXISTING FACILITIES

- A. The Contractor shall take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, adjoining property, and structures, and to avoid damage thereto, and he shall at his own expense completely repair any damage thereto caused by his operation. Access for fire fighting equipment shall be maintained at all times.
- B. Any survey monuments disturbed by the construction shall be referenced and replaced by a surveyor licensed by the State of New Mexico.

END OF SECTION

**SECTION 01700
PROJECT CLOSEOUT**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. The Contractor shall comply with all requirements stated in the General and Special Conditions of the Contract and in the Specifications for administrative procedures for closing out the work.

1.02 SUBSTANTIAL COMPLETION

- A. When Contractor considers the Work is substantially complete, he shall submit to Owner's Representative:
1. A written notice that the Work, or designated portion thereof, is substantially complete.
 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, Owner will make an inspection to determine the status of completion.
- C. Should Owner determine that the Work is not substantially complete:
1. Owner will promptly notify the Contractor in writing, giving the reasons therefore.
 2. Contractor shall remedy the deficiencies in the Work, and send a second written notice of substantial completion to the Owner.
 3. Owner will re-inspect the Work.
- D. When the Owner finds that the Work is substantially complete, he will:
1. Prepare a tentative Certificate of Substantial Completion, with a tentative list of items to be completed or corrected before final payment.
 2. After consideration of any objections as provided in conditions of the Contract, and when Owner considers the Work substantially complete, he will execute and deliver to the Contractor a definite Certificate of Substantial Completion with a revised tentative list of items to be completed or corrected.

1.03 FINAL SUBMITTALS

- A. The CONTRACTOR, prior to requesting final payment, shall obtain and submit the following items to the ENGINEER for transmittal to the OWNER:
1. Written guarantees, where required.
 2. Maintenance stock items; spare parts, special tools, where required.
 3. Completed record drawings.

4. Certificates of inspection and acceptance by governing agencies having jurisdiction.
5. Releases from all parties who are entitled to claims against the subject Project, property, or improvement pursuant to the provisions of law.
6. Completed Certificate of Compliance and Release for all contractors involved in the WORK.
7. Submit the original signed document to the OWNER's Project Manager.

1.04 FINAL INSPECTION

- A. When Contractor considers the Work complete, he shall submit written certification of the following items:
 1. Contract Documents have been reviewed.
 2. Work has been inspected for compliance with Contract Documents.
 3. Work has been completed in accordance with Contract Documents.
 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 5. Work is completed and ready for final inspection.
 6. Any other items required by the Special Conditions.
- B. Owner will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should Owner consider that the Work is incomplete or defective:
 1. Owner will promptly notify the Contractor in writing, listing the incomplete or defective work.
 2. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to Owner that the Work is complete.
 3. Owner will re-inspect the Work.
- D. When the Owner finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make close out submittals.

1.05 REINSPECTION FEES

- A. Should Owner perform re-inspections due to failure of the Work to comply with the claims of status of completion made by the Contractor, Owner will be authorized to deduct the amount of such reinspection compensation for staff and/or consultants from the final payment to the Contractor.

1.06 MAINTENANCE AND GUARANTEE

- A. The CONTRACTOR shall comply with the maintenance and guarantee requirements contained in the General Conditions.
- B. Replacement of earth fill or backfill, where it has settled below the required finish elevations, shall be considered as a part of such required repair work, and any

repair or resurfacing constructed by the CONTRACTOR which becomes necessary by reason of such settlement shall likewise be considered as a part of such required repair work unless the CONTRACTOR shall have obtained a statement in writing from the affected private owner or public agency releasing the OWNER from further responsibility in connection with such repair or resurfacing.

- C. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order from the OWNER. If the CONTRACTOR fails to make such repairs or replacements promptly, the OWNER reserves the right to do the WORK and the CONTRACTOR and his surety shall be liable to the OWNER for the cost thereof.

END OF SECTION

**SECTION 01710
CLEANING****PART 1 GENERAL****1.01 GENERAL REQUIREMENTS**

- A. Maintain premises and public properties free from accumulations of waste, debris, and rubbish caused by operations.
- B. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave project clean and ready for occupancy.
- C. Site and work on public rights-of-way shall be kept cleaned up as specified for the work involved.

1.02 SAFETY REQUIREMENTS

- A. Standards: Maintain project in accord with the applicable federal, state and local safety standards.
- B. Hazards Control:
 - 1. Store volatile wastes in covered metal containers and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.
- C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on project site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.

PART 2. PRODUCTS**2.01 MATERIALS**

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3. EXECUTION**3.01 DURING CONSTRUCTION**

- A. Execute cleaning to insure that grounds and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. Remove waste materials, debris and rubbish from site and legally dispose of at permitted private disposal facilities off of Owner's property.
- D. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

3.02 FINAL CLEANING OF STRUCTURES

- A. Employ experienced workmen, or professional cleaners, for final cleaning.
- B. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces.
- C. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials, from sight-exposed interior and exterior finished surfaces; polish surfaces so designated to shine finish.
- D. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
- E. Broom clean paved surfaces; rake clean other surfaces or grounds.
- F. Maintain cleaning until project is occupied by Owner.

3.03 GENERAL CLEANUP

- A. Before final acceptance, the Contractor shall remove and obliterate, insofar as feasible, all objects or disturbances of the ground which mar the landscape and where caused by his operations, whether or not part of the improvement.
- B. Rubbish, excess materials, temporary structures, and discarded equipment shall be removed and disposed of.

END OF SECTION

**SECTION 02010
SUBSURFACE INVESTIGATION**

PART 1 GENERAL

1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Summary of the Work including work by the City, City-furnished Products, work sequence, future work, Contractor use of Premises, special conditions for substantial completion and City occupancy.
- B. Jobsite Administration
- C. Shoring: Section

1.02 SOIL REPORTS

- A. Any data on soil and/or subsurface conditions shown in the Plans or Specifications is not to be taken as a representation, but is based on limited information and is at best only an opinion; consequently, such data cannot be considered precise or complete and there is no guarantee as to its completeness, accuracy, or precision.
- B. A limited soils investigation was performed for this project to determine general characteristics of the existing subsurface. Due to limited project budget, the scope was limited and may not have adequately addressed the subsurface conditions in all areas.
- C. Additional Investigation:
 - 1. Contractor should visit the site and acquaint himself with site conditions before submitting a bid, and the submission of a bid will be prima facie evidence that he has done so.
 - 2. Prior to bidding, Contractor may make his own subsurface investigations to satisfy himself with site and subsurface conditions.

1.03 QUALITY ASSURANCE

- A. The Contractor shall re-adjust work performed that does not meet technical or design requirements.
- B. The Contractor shall make no deviations from the Contract Documents without specific and written approval of the Owner.
- C. The Contractor shall be responsible for obtaining approval from responsible agency or property owner before performing any exploratory excavations.

END OF SECTION

**SECTION 02110
SITE CLEARING****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Remove surface debris.
- B. Clear site of plant life and grass.
- C. Remove trees and shrubs.
- D. Remove root system of grass, trees and shrubs.

1.02 REGULATORY REQUIREMENTS

- A. Conform to applicable regulations for disposal of debris.
- B. Coordinate clearing work with Owner's Project Representative.

1.03 DESCRIPTION OF WORK:

- A. Extent of site clearing is shown on drawings.
- B. Site clearing includes, but is not limited to:
 - 1) Protection of existing trees.
 - 2) Removal of vegetation.
 - 3) Topsoil stripping.
 - 4) Clearing and grubbing. Reference: NMDOT Standard Specifications For Highway And Bridge Construction; SECTION 201: CLEARING AND GRUBBING, excluding 201.5.

1.04 JOB CONDITIONS:

- A. Traffic: Conduct site clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
- B. Do not close or obstruct streets, walks or other occupied or used facilities without permission from authorities having jurisdiction.
- C. Protection of Existing Improvements: Provide protections necessary to prevent damage to existing improvements indicated to remain in place.
 - 1) Protect improvements on adjoining properties and on Owner's property.
 - 2) Restore damaged improvements to their original condition, as acceptable to parties having jurisdiction.
- D. Contractor shall visit the site, become familiar with all existing conditions and shall be responsible for all work required to carry out the intent of the contract documents.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION**3.01 PREPARATION:**

- A. Verify that existing plant life and features designated to remain are tagged or identified.

3.02 PROTECTION:

- A. Protect utilities from damage.
- B. Protect trees, plant growth and features designated to remain as final landscaping.
- C. Protect benchmarks from damage or displacement.

3.03 CLEARING AND GRUBBING:

- A. Clearing and grubbing shall be required for all areas shown on the plans to be excavated, or on which fill is to be constructed.
- B. Clearing shall consist of removal and disposal of other vegetation as well as brush and rubbish within the site to be cleared.
- C. Clear areas required for access to site and execution of work.
- D. Remove trees and shrubs within the marked areas. Remove stumps, main root ball, or root systems larger than 2 inches in diameter to a depth of 24 inches, and surface rock.
- E. Clear undergrowth and deadwood without disturbing subsoil.
- F. Grass, grass roots and the incidental topsoil shall not be left beneath a fill area, nor shall this material be used as fill material. Grass, grassroots and topsoil may be stockpiled and later used in the top 6 inches of fills outside roadways and building areas.

3.04 REMOVAL

- A. Remove debris, rock, and extracted plant life from site.
- B. Burning is not permitted on Owner's property.
- C. Remove waste materials from Owner's property and dispose of off site in a legal manner.

END OF SECTION

**SECTION 02226
EXCAVATION AND BACKFILL FOR STRUCTURES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Excavation, backfilling, and compaction of backfill for structures.

1.02 DEFINITIONS

- A. **Unsuitable Material:** Unsuitable soil materials are the following:
1. Materials that are classified as ML, CL-ML, MH, PT, OH and OL according to ASTM D 2487.
 2. Materials that cannot be compacted to the required density due to gradation, plasticity, or moisture content.
 3. Materials that contain large clods, aggregates, stones greater than 4 inches in any dimension, debris, vegetation, waste or any other deleterious materials.
 4. Materials that are contaminated with hydrocarbons or other chemical contaminants.
- B. **Suitable Material:** Suitable soil materials are those meeting specification requirements. Unsuitable soils meeting specification requirements for suitable soils after treatment with lime or cement shall be considered suitable, unless otherwise indicated.
- C. **Backfill:** Select material meeting specified quality requirements, placed and compacted under controlled conditions around structures.
- D. **Foundation Backfill Materials:** Natural soil or manufactured aggregate meeting requirements and geotextile filter fabrics, as required, to control drainage and material separation. Foundation backfill material is placed and compacted as backfill where needed to provide stable support for the structure foundation base. Foundation backfill materials may include concrete fill and seal slabs.
- E. **Foundation Base:** For foundation base material, use crushed aggregate with filter fabric, as required, cement stabilized sand, or concrete seal slab. The foundation base provides a smooth, level working surface for the construction of the concrete foundation.
- F. **Foundation Subgrade:** Foundation subgrade is the surface of the natural soil which has been excavated and prepared to support the foundation base or foundation backfill, where needed.
- G. **Surface Water Control:** Diversion and drainage of surface water runoff and rain water away from the excavation. Remove rain water and surface water which accidentally enters the excavation as a part of excavation drainage.

- H. Excavation Drainage: Removal of surface and seepage water in the excavation by sump pumping and using French drains surrounding the foundation to intercept the water.
- I. Over-Excavation and Backfill: Excavation of subgrade soils with unsatisfactory bearing capacity or composed of otherwise unsuitable materials below the foundation as shown on Drawings, and backfilled with foundation backfill material.
- J. Shoring System: A structure that supports the sides of an excavation to maintain stable soil conditions and prevent cave-ins.

1.04 SUBMITTALS

- A. Submittals shall conform to requirements of all sections and provisions of these regulations.
- B. Submit a work plan for excavation and backfill for each structure with complete written description which identifies details of the proposed method of construction and the sequence of operations for construction relative to excavation and backfill activities. The descriptions, with supporting illustrations, shall be sufficiently detailed to demonstrate to the Owner's Representative that the procedures meet the requirements of the Specifications and Drawings.
- C. Submit excavation safety system plan.
 - 1. The excavation safety system plan shall be in accordance with applicable OSHA requirements for all excavations.
- D. Submit backfill material sources and product quality information.
- E. Submit project record documents. Record location of utilities, as installed, referenced to survey benchmarks. Include location of utilities encountered or rerouted. Give horizontal dimensions, elevations, inverts and gradients.

1.05 TESTS

- A. Testing and analysis of backfill materials for soil classification and compaction during construction will be performed by an independent laboratory provided by the Owner as specified in this Section.
- B. Contractor shall perform embedment and backfill material source qualification testing in accordance with requirements of the Project Documents.

PART 2 PRODUCTS

2.01 EQUIPMENT

- A. Perform excavation with equipment suitable for achieving the requirements of this

Specification.

- B. Use equipment which will produce the degree of compaction specified. Backfill within 3 feet of walls shall be compacted with hand-operated equipment. Do not use equipment weighing more than 10,000 pounds closer to walls than a horizontal distance equal to the depth of the fill at that time. Use hand operated power compaction equipment where use of heavier equipment is impractical or restricted due to weight limitations.

2.02 MATERIAL CLASSIFICATIONS

- A. Backfill materials shall conform to the classifications and product descriptions of Project Documents. The classification or product description for backfill applications shall be as shown on the Drawings and as specified.

PART 3 EXECUTION

3.01 PREPARATION

- A. Conduct an inspection to determine condition of existing structures and other permanent installations.
- B. Set up necessary street detours and barricades in preparation for excavation if construction will affect traffic. Maintain barricades and warning devices at all times for streets and intersections where work is in progress, or where affected by the Work, and is considered hazardous to traffic movements.
- C. Perform work in accordance with OSHA standards. Employ an excavation safety system for excavations over 5 feet deep.
- D. Install and operate necessary dewatering and surface water control as required.

3.02 PROTECTION

- A. Protect trees, shrubs, existing structures, and other permanent objects outside of grading limits and within the grading limits as designated on the Drawings, and in accordance with requirements of Section 01535 - Tree and Plant Protection.
- B. Protect and support above-grade and below-grade utilities which are to remain.
- C. Restore damaged permanent facilities to pre-construction conditions unless replacement or abandonment of facilities is indicated on the Drawings.
- D. Prevent erosion of excavations and backfill. Do not allow water to pond in excavations.

- E. Maintain excavation and backfill areas until start of subsequent work. Repair and recompact slides, washouts, settlements, or areas with loss of density at no additional cost to the Owner.

3.03 EXCAVATION

- A. Perform excavation work so that the underground structure can be installed to depths and alignments shown on Drawings. Use caution during excavation work to avoid disturbing surrounding ground and existing facilities and improvements. Keep excavation to the absolute minimum necessary. No additional payment will be made for excess excavation not authorized by Owner's Representative.
- B. Upon discovery of unknown utilities, badly deteriorated utilities not designated for removal, or concealed conditions, discontinue work. Notify Owner's Representative and obtain instructions before proceeding in such areas.
- C. Immediately notify the agency or company owning any line which is damaged, broken or disturbed. Obtain approval from Owner's Representative and agency for any repairs or relocations, either temporary or permanent.
- D. Avoid settlement of surrounding soil due to equipment operations, excavation procedures, vibration, dewatering, or other construction methods.
- E. Provide surface drainage during construction to protect work and to avoid nuisance to adjoining property. Where required, provide proper dewatering and piezometric pressure control during construction.
- F. Conduct hauling operations so that trucks and other vehicles do not violate the City's Stormwater Protection Ordinance. Verify that truck beds are sufficiently tight and loaded in such a manner that material will not spill onto streets. Promptly clear away any dirt, mud, or other materials that spill onto streets or are deposited onto streets by vehicle tires.
- G. Maintain permanent benchmarks, monumentation, and other reference points. Unless otherwise directed, replace those which are damaged or destroyed by the Work.
- H. Provide sheeting, shoring, and bracing where required to safely complete the Work, to prevent excavation from extending beyond limits indicated on Drawings, and to protect the Work and adjacent structures or improvements.
- I. Prevent voids from forming outside of sheeting. Immediately fill voids with grout, concrete fill, cement stabilized sand, or other material approved by Owner's Representative.
- J. After completion of the structure, remove sheeting, shoring, and bracing unless Owner's Representative has approved in writing that such temporary structures may remain. Remove sheeting, shoring and bracing in such a manner as to

maintain safety during backfilling operations and to prevent damage to the Work and adjacent structures or improvements.

- K. Immediately fill and compact voids left or caused by removal of sheeting with cement stabilized sand or material approved by Owner's Representative.

3.04 HANDLING EXCAVATED MATERIALS

- A. Classify excavated materials. Place material which is suitable for use as backfill in orderly piles at a sufficient distance from excavation to prevent slides or cave-ins.
- B. Provide additional backfill material if adequate quantities of suitable material are not available from excavation and trenching operations at the site.

3.05 DEWATERING

- A. Maintain the ground water surface a minimum of two feet below the bottom of the foundation base.
- B. Maintain ground water control until the structure is sufficiently complete to provide the required weight to resist hydrostatic uplift with a minimum safety factor of 1.2.

3.06 FOUNDATION EXCAVATION

- A. Notify Owner's Representative at least 48 hours prior to planned completion of foundation excavations. Do not place the foundation base until the excavation is accepted by the Owner's Representative.
- B. Excavate to elevations shown on Drawings, as needed to provide space for the foundation base, forming a level undisturbed surface, free of mud or soft material. Remove pockets of soft or otherwise unstable soils and replace with foundation backfill material or a material as directed by the Owner's Representative. Prior to placing material over it, recompact the subgrade, scarifying, as needed, to 95 percent of the maximum Standard Proctor Density according to ASTM D 698. If the specified level of compaction cannot be achieved, moisture condition the subgrade and recompact until 95 percent is achieved, over-excavate to provide a minimum layer of 24 inches of foundation backfill material, or other means acceptable to the Owner's Representative.
- C. Fill unauthorized excessive excavation with foundation backfill material or other material as directed by the Owner's Representative.
- D. Protect open excavations from rainfall, runoff, freezing groundwater, or excessive drying so as to maintain foundation subgrade in a satisfactory, undisturbed condition. Keep excavations free of standing water and completely free of water during concrete placement.

- E. Soils which become unsuitable due to inadequate dewatering or other causes, after initial excavation to the required subgrade, shall be removed and replaced with foundation backfill material, as directed by Owner's Representative, at no additional cost to the Owner.
- F. Place foundation base, or foundation backfill material, where needed, over the subgrade on same day that excavation is completed to final grade. Where base of excavations are left open for longer periods, protect them with a seal slab or cement-stabilized sand.
- G. All crushed aggregate and other free draining materials shall have a geotextile filter fabric separating it from native soils or select material backfill. The fabric shall overlap a minimum of 12 inches beyond where another material stops contact with the soil.
- H. Crushed aggregate shall be placed in uniform layers of 8-inch maximum thickness. Compaction shall be by means of at least two passes of a vibratory compactor.

3.07 FOUNDATION BASE

- A. After the subgrade is properly prepared, including the placement of foundation backfill where needed, the foundation base shall be placed. The foundation base shall consist of a 12-inch layer of crushed aggregate or cement stabilized sand. Alternately, a 4-inch minimum seal slab may be placed. The foundation base shall extend a minimum of 12 inches beyond the edge of the structure foundation. Refer to the project plans and comply with actual design requirement when more stringent than stated herein.
- B. Where the foundation base and foundation backfill are of the same material, both can be placed in one operation.

3.08 BACKFILL

- A. Complete backfill to surface of natural ground or to lines and grades shown on Drawings. Use existing material that qualifies as select material, unless indicated otherwise. Deposit backfill in uniform layers and compact each layer as specified.
- B. Do not place backfill against concrete walls or similar structures until laboratory test breaks indicate that the concrete has reached a minimum of 85 percent of the specified compressive strength. Where walls are supported by slabs or intermediate walls, do not begin backfill operations until the slab or intermediate walls have been placed and concrete has attained sufficient strength.
- C. Remove concrete forms before starting backfill and remove shoring and bracing as work progresses.

- D. Maintain fill material at no less than optimum moisture content nor more than 2 percent above optimum moisture content. Place fill material in uniform 6-inch maximum loose layers. Compaction of fill shall be to at least 95 percent of the maximum Standard Proctor Density according to ASTM D 698 under paved areas. Compact to at least 95 percent around structures below unpaved areas.
- E. Where backfill is placed against a sloped excavation surface, run compaction equipment across the boundary of the cut slope and backfill to form a compacted slope surface for placement of the next layer of backfill.

3.09 FIELD QUALITY CONTROL

- A. Tests will be performed initially on minimum of three different samples of each material type for plasticity characteristics, in accordance with ASTM D 4318, and for gradation characteristics. Additional classification tests will be performed whenever there is a noticeable change in material gradation or plasticity.
- B. In-place density tests of compacted subgrade and backfill will be performed according to ASTM D 1556, or ASTM D 2922 and ASTM D 3017, and at the following frequencies and conditions:
 - 1. A minimum of one test for every 100 cubic yards of compacted backfill material.
 - 2. A minimum three density tests for each full work shift.
 - 3. Density tests will be performed in all placement areas.
 - 4. The number of tests will be increased if inspection determines that soil types or moisture contents are not uniform or if compacting effort is variable and not considered sufficient to attain uniform density.
- C. At least three tests for moisture-density relationships will be initially performed for each type of backfill material in accordance with ASTM D 698. Additional moisture-density relationship tests will be performed whenever there is a noticeable change in material gradation or plasticity.
- D. If tests indicate work does not meet specified compaction requirements, recondition, recompact, and retest at Contractor's expense.

3.10 DISPOSAL OF EXCESS MATERIAL

- E. A. Dispose of excess materials in accordance with requirements of Project Documents

END OF SECTION

**SECTION 02300
EARTHWORK****PART 1 GENERAL****1.01 SUMMARY**

- A. Furnish equipment, materials, and labor and performing functions required for earthwork as specified in the Drawings and Specifications as well as unspecified earthwork necessary to complete the work as specified, including demucking, excavating, filling, grading, compaction, and disposal of excess material.
- B. Any list of equipment and/or materials set forth in this section shall not be taken to exclude other incidentals necessary to complete the work in accordance with the Drawings and Specifications for the intended use.

1.02 STANDARDS AND REGULATIONS

- A. New Mexico Department of Transportation - Standard Specifications for Road and Bridge Construction - Latest Edition.
- B. American Association of State Highway and Transportation Officials (AASHTO).

1.03 SUBMITTALS

- A. Submit a schedule of earthwork activities together with an estimated list of equipment to be used.
- B. The schedule shall be subject to approval by the OWNER and shall be updated periodically as requested by the OWNER.

1.04 GUARANTEES

- A. Guarantee materials and work performed for a period of one (1) year from the date of substantial completion.
- B. Take corrective action to eliminate defective materials or workmanship for the guarantee period.

1.05 TESTS AND CERTIFICATES:

- A. Perform compaction tests as specified, as requested by the OWNER, and in accordance with AASHTO.

1.06 EXISTING CONDITIONS:

- A. Project borings and soil reports are available only on request by the Contractor, however, Contractor is advised that any such soil boring information so provided, is only for informational purposes and only represents the information in the immediate area of the boring or other sample, test, and/or analysis and is not intended or Warranted to represent the subsoil conditions to be encountered by the Contractor for another specific area of the project or for the project in general for the entire area. The Contractor shall be required to determine and provide on his/her own, for the subsoil information required to accurately represent subsoil conditions for the underground work to be performed.

PART 2 PRODUCTS**2.01 BEDDING AND BACKFILL:**

- A. Refer to Division 2 Excavation and Fill and as shown in the Drawings.
- B. Unsatisfactory Materials
1. Unsatisfactory materials, as are identified below.
 - a. Materials, which cannot be satisfactorily placed and compacted to a stable and durable condition.
 - b. Soil that contains excessive moisture or moisture that will limit the degree of compaction.
 - 1) At the CONTRACTORS option and expense, material may be dried and used for backfill.
 - 2) New material shall be at CONTRACTORS expense.
 - c. Materials including, but not limited to, materials containing roots, loam, wood, or other organic matter, trash, debris, muck, sod, peat, or other objectionable materials which may be compressible or cannot be properly compacted.
 - d. Man-made fills, refuse, or backfills from previous construction.
- C. Unyielding Materials:
1. Shall consist of rock and gravelly soils with stones greater than three (3") inches in any dimension.
- D. Satisfactory Materials:
1. Refer to the details shown in the Drawings for specific requirements.
- E. Backfill Materials
1. Shall consist of satisfactory material consisting of natural, predominantly well graded materials with no more than forty (40%) percent by weight passing the No. 200 sieve and at a moisture content that will facilitate compaction, free from stones larger than 1/2 inches in any dimension.
 2. The backfill material shall be free of stones larger than 1/2 inches in any dimension when pipe is coated or wrapped for protection against corrosion.
 3. Shall be clean earth fill, composed of sand, sand and clay, sand and rock, or

crushed rock.

4. Where concrete or other encasement of pipe or other utilities is indicated, the backfill shall begin after the encasement has been inspected and approved and has attained three-quarters ($\frac{3}{4}$) of its designed strength.
5. Material for the first layers of backfill shall be lowered to within two (2') feet above the top of pipes before it is allowed to fall on the pipes, unless the material is placed with approved chutes or other devices that protect the pipes from the impact of stones conveyed from greater height.

F. Fine Materials

1. Shall be carefully placed and tamped around the lower half of the utility; backfilling shall be carefully continued in layers not exceeding six (6") inches above the top of the utility, using the best available material from the excavation, if approved, and excluding stones or rock fragments larger than one-half ($\frac{1}{2}$ ") inch.

G. Borrow Materials

1. Shall be used if suitable material from the excavation is not available.

PART 3 EXECUTION

Not Used

END OF SECTION

**SECTION 02315
EXCAVATION AND EMBANKMENT**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This work shall consist of excavation, embankment fill, disposal of excess material, shaping, and compaction of all material encountered within the limits of work, including excavation and backfill for structures. The excavation shall include, but is not limited to, the native soils which must be excavated for the project work. All work shall be completed in accordance with these Specifications and the lines and grades on the Drawings.

1.02 DEFINITIONS

- A. Unclassified Excavation shall consist of the excavation of all materials on site to final grades. Excavation of unsuitable material will only be paid for if it is found to be unsuitable in its original state.
- B. Muck Excavation shall consist of the removal and disposal of mixtures of soils and organic matter not suitable for foundation material and replacement with approved material. Material damaged due to rain or weather will not be paid for as Muck excavation and is entirely the responsibility of the CONTRACTOR.
- C. Rock Excavation shall consist of igneous, metamorphic and sedimentary rock which cannot be excavated without the use of rippers, and all boulders or other detached stones each having a volume of 1/2 cubic yard or more, as determined by physical or visual measurement. It shall also include replacement with approved material as required.
- D. Embankment (Complete in Place): shall consist of placing all excavated material, except material being hauled and disposed, as embankment and compacted to final grades as specified in the Contract Documents and on the Drawings.

1.03 DESCRIPTION

- A. This work shall consist of excavation, disposal, placement, and compaction of all material encountered within the limits of the work, and not being completed under some other item, necessary for the construction of the project in accordance with the Specifications and the lines, grades, and typical cross-sections shown on the Drawings. All excavation will be classified, "unclassified excavation", or "muck excavation" or "rock excavation", as hereafter described. All embankment will be classified "embankment material" as hereafter described.

1.04 QUALITY ASSURANCE

- A. Final topography and/or cross-sections will be surveyed of areas that are to finished grade and compared to the design section for accuracy. Final grade shall match design grades within the tolerances discussed in PART 3 EXECUTION.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Embankment material may consist of approved material acquired from excavations or material hauled from outside the project limits. Suitable material identified on-site shall be used first for embankments and backfill. Excess excavated native soils which are not used as embankment or backfill shall become the property of the CONTRACTOR and shall be disposed of off-site by the CONTRACTOR, in a location acceptable to the ENGINEER.
- B. Muck excavation encountered in all areas other than within the lakes shall also include the replacement of excavated muck with uniformly graded rock, riprap, on-site or imported soils, or other material whichever is most suitable for the specific situation encountered. The ENGINEER will determine which type of aggregate or other material which shall be used after observing the specific site conditions.

PART 3 EXECUTION

3.01 GENERAL EXCAVATION/EMBANKMENT

- A. General: The excavation and embankment for the project work shall be finished to reasonably smooth and uniform surfaces. Variation from the subgrade plane shall not be more than .08 feet in soil or more than .08 feet above or 1.50 below in rock. Materials shall not be wasted without permission of the ENGINEER. Excavation operations shall be conducted so that material outside of the limits of slopes will not be disturbed.
- B. When the CONTRACTOR's excavating operations encounter remains of pre-historic people's dwelling sites or artifacts of historical or archaeological significance, the operations shall be temporarily discontinued. The ENGINEER will contact archaeological authorities to determine the disposition thereof. When directed, the CONTRACTOR shall excavate the site in such a manner as to preserve the artifacts encountered and shall remove them for delivery to the custody of the proper state authorities. Such excavation will be considered and paid for as extra work.
- C. Excavation:
 - 1. Unclassified: All excess suitable material excavated from the project site

and not used for embankment shall be removed from the project site and become the property of the CONTRACTOR. Where material encountered within the limit of the work is considered unsuitable for embankment (fills) on any portion of this project work, such material shall be excavated as directed by the ENGINEER and replaced with suitable fill material. All unsuitable excavated material from excavation consisting of any type of debris (surface or buried), excavated rock, bedrock or rocks larger than 6 inches in diameter and boulders shall be hauled from the project site and disposed of. Debris is defined as "anything that is not earth which exists at the job site".

2. Muck: Where excavation to the finished grade section results in a subgrade or slopes of unsuitable soil, the ENGINEER may require the CONTRACTOR to remove the unsuitable materials and backfill to the finished graded section with approved material. Disposal of the material shall be at the CONTRACTOR's expense.

Good surface drainage shall be provided around all permanent cuts to direct surface runoff away from the cut face.

Rock: Unless otherwise specified, rock (including claystone, shale and mudstone) shall be excavated to a minimum depth of 1.5 feet below subgrade within the limits of the building area, and the excavation shall be backfilled with material shown on the Drawings or as designated by the ENGINEER. Disposal of material and replacement with suitable approved material shall be at the CONTRACTOR's expense.

- A. Embankment Construction: Embankment construction shall consist of constructing all fill areas, including preparation of the areas upon which they are to be placed, and the placing and compacting of embankment material in holes, pits and other depressions within the project area. Only approved materials shall be used in the construction of embankments and backfills.

Approved materials shall consist of clean on-site cohesive soils or approved imported soils. On-site cohesive soils are suitable for use as compacted fill provided the following recommendations are met:

Excavation and Embankment will only be paid when a significant change in grade is required, as determined by the ENGINEER. Minor cuts and fills will be considered incidental to the work and will not be paid for separately under this section.

Imported fill material shall be provided by Contractor and shall meet the following requirements:

Percent Finer by Weight Gradation	(ASTM C136)
2 Inch	100
No. 4	25-70
No. 200	0-12

Plasticity Index – 12 or less as determined by ASTM D 4318.

On-site cohesive soils or imported soils should be placed and compacted in horizontal lifts, using equipment and procedures that will produce recommended moisture contents and densities throughout the lift and embankment height. On-site or imported cohesive soils should be compacted within a moisture content range of optimum moisture content to 2% above optimum moisture content (but not less than optimum moisture content) and compacted to 95% of the Maximum Standard Proctor Density (ASTM D698).

When embankment is to be placed and compacted on hillsides, or when new embankment is to be compacted against existing embankments, or when embankment is built 1/2 width at a time, the slopes that are steeper than 4:1 when measured longitudinally or at right angles to the adjacent ground shall be continuously benched over those areas where it is required as the work is brought up in layers. Benching shall be well keyed and where practical a minimum of 8 feet. Each horizontal cut shall begin at the intersection of the original ground and the vertical sides of the previous cuts. Material thus cut out shall be recompacted along with the new embankment material at the CONTRACTOR's expense.

The ground surface underlying all fills shall be carefully prepared by removing all organic matter, scarification to a depth of 8 inches and recompacting to 95% of the Maximum Standard Proctor Density (ASTM D698) at optimum moisture content to + 2%, but not below optimum moisture content, prior to fill placement.

Embankment material shall be placed in horizontal layers not exceeding 6 inches (loose measurement) and shall be compacted to 95% of the Maximum Standard Proctor Density (ASTM D698) at optimum moisture content to + 2%, but not below optimum moisture content. Effective spreading equipment shall be used on each lift to obtain uniform thickness prior to compacting. As the compaction of each layer progresses, continuous leveling and manipulating will be required to assure uniform density.

For embankments which serve as berms, the downstream portion shall be "keyed" into the subsurface soils a minimum of 3 feet to enhance the stability of the slope.

Materials which are removed from excavations beneath the water table may be over the optimum moisture content and will require that they be dried out prior to reusing them.

Cross hauling or other action as appropriate will be ordered when necessary to insure that the best available material is placed in critical areas of embankments, including the top 2 feet of all embankments. No additional payment will be made for cross hauling ordered by the ENGINEER.

Frozen materials shall not be used in construction of embankments.

During the construction of the channels, the channel bottom shall be maintained in such condition that it will be well drained at all times.

Excavation or Embankment (Fill), and Structural Backfill work either completed or in a stage of completion that is either eroded or washed away or becomes unstable due to either rains, snow, snow melt, channel flows or lack of proper water control

shall be either removed and replaced, recompactd or reshaped as directed by the ENGINEER and in accordance with the Drawings and Specifications at the CONTRACTOR's sole expense. Removed unsuitable materials shall be hauled away and disposed of at the CONTRACTOR's expense. Placing of replacement materials for removed unsuitable materials shall be purchased, placed and compacted at the CONTRACTOR' expense.

- B. Proof rolling with designated heavy rubber-tired equipment will be required, if designated on the Drawings or when ordered by the ENGINEER. Proof rolling shall be done after specified compaction has been obtained. Areas found to be weak and those areas which failed shall be removed to an adequate depth or ripped, scarified, wetted if necessary, and recompactd to the requirements for density and moisture at the CONTRACTOR's expense.

Proof rolling shall be done with equipment and in a manner acceptable to the ENGINEER. Proof rolling as shown on the Drawings or as ordered by the ENGINEER shall not be measured and paid for separately, but shall be included in the unit prices bid for the work.

PART 3 PRODUCTS

Not Used

PART 4 EXECUTION

Not Used

END OF SECTION

**SECTION 02316
FILL AND BACKFILL**

PART 1 GENERAL

1.01 SECTION INCLUDES:

Applies to building pad only, adjacent sitework is preparation specified by Engineer working directly for Owner.

- A. Removal of topsoil and subsoil.
- B. Cutting, grading, filling and rough contouring the site for site structures.
- C. Filling, backfilling, and compacting for footings, slabs-on-grade.
- D. Backfilling and compacting for utilities outside the building to utility main connections.

1.02 RELATED SECTIONS

- A. Document Geotechnical Reports; bore hole locations and findings of subsurface materials.
- B. Section 01400 - Quality Control: Testing fill compaction.
- C. Section 02110 - Site Clearing.

1.03 REFERENCES

- A. AASHTO T180 - Moisture-Density Relations of Soils Using a 10-lb (4.54 kg) Rammer and an 18-in. (457 mm) Drop.
- B. ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.
- C. ANSI/ASTM D1556 - Test Method for Density of Soil in Place by the Sand-Cone Method.
- D. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18 inch (457 mm) Drop.
- E. ASTM D2167 - Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
- F. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- G. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.

1.04 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01700.
- B. Accurately record actual locations of utilities remaining, by horizontal dimensions, elevations or inverts, and slope gradients.

PART 2 PRODUCTS**2.01 MATERIALS: Building Site**

- A. Topsoil: shall be removed from building site area and within 5 feet of building site area. Reuse topsoil for filling at designated non-structural areas at site.
- B. Select Fill: Select fill is required to bring building pad to grade. The soft/loose, near surface soils should be undercut to 48 inches below finished floor subgrade elevation or 18 inches below competent rock (including claystone, shale and mudstone), whichever is deeper, prior to placement of any required structural fill.
- C. Granular or Aggregate Base: See Details.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify site conditions under provisions of Section 01039.
- B. Verify that survey bench mark and intended elevations for the Work are as indicated.

3.02 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Stake and flag locations of known utilities.
- C. Locate, identify, and protect utilities that remain, from damage.
- D. Notify utility company to remove and/or relocate utilities.
- E. Protect above and below grade utilities that remain.
- F. Protect plant life, lawns and other features remaining as a portion of final landscaping.

- G. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.03 SUBSOIL EXCAVATION AND FILLING: Building Site

- A. The subgrade soils shall be overexcavated as required and replaced with compacted select fill to a depth as required by the floor slab **and** concrete spot and continuous footings. The overexcavation should extend a minimum of 5 feet outside the edge of the proposed building line. The bottom of the overexcavation shall be placed on a 1% slope so any water that may collect does not pond within the building footprint and proof rolled. During the construction phase, inspection shall be made of the subgrade by a testing lab representative to delineate the areas requiring overexcavation and replacement with compacted select fill. Placement shall be made in accordance with Section 207 - Subgrade Preparation; Standard Specifications For Highway And Bridge Construction - New Mexico Department Of Transportation (Most Recent Edition).
- B. Excavate subsoil from areas to be further excavated, re-landscaped, or re-graded.
- C. Stockpile on site to depth not exceeding 8 feet. Protect from erosion. Remove subsoil not being reused from site.
- D. When excavating through roots, perform work by hand and cut roots with sharp axe.
- E. Fill areas to contours and elevations with unfrozen materials.
- F. Place subsequent lifts of select fill in thin layers not exceeding 6 inches in loose thickness to the desired rough grade. Compact each lift to within 95 percent of the density defined by ASTM D-698. Maintain moisture within optimum moisture content to 2%, but not lower than theoretical optimum. Prevent excess loss of moisture from the building area subgrade during construction.
- G. The Contractor should consider weather conditions when overexcavating and filling. If water is allowed to leach through the fill and rest on the clay stratum, a pumping subgrade could result. Stabilization using lime, cement, or fly ash should be used with wet weather construction.
- H. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise.
- I. Make grade changes gradual. Blend slope into level areas.
- J. Remove surplus fill materials from site.
- K. In-place density tests will be conducted at the rate of one test per 1000 square feet for each lift.
- L. Topsoil to be distributed over site at uniform 4 inch thickness.

3.04 TOLERANCES

- A. Top Surface of Subgrade: Plus or minus 0.08 foot.

3.05 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Standard Specifications For Highway And Bridge Construction - New Mexico Department Of Transportation (Most Recent Edition).
- B. Compaction testing will be performed in accordance with ANSI/ASTM D698.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- D. Soils lab to certify that soil preparation is in accordance with plans and specifications.

END OF SECTION

**SECTION 03300
CAST-IN-PLACE CONCRETE**

PART 1 GENERAL

1.01 SUMMARY

- A. Related Documents:
Drawings and general provisions of the Subcontract apply to this Section.
Review these documents for coordination with additional requirements and information that apply to work under this Section.
- B. Section Includes:
Cast-in-place concrete.

1.02 REFERENCES

- A. General:
The following documents form part of the Specifications to the extent stated.
Where differences exist between codes and standards, the one affording the greatest protection shall apply.
Unless otherwise noted, the referenced standard edition is the current one at the time of commencement of the Work.
- B. American Concrete Institute (ACI):
ACI 211.1 Proportioning Concrete Mixtures
ACI 301 Specifications for Structural Concrete
ACI 302 Construction of Concrete Floors
ACI 303.1 Specification for Cast-in-Place Architectural Concrete
ACI 305 Hot Weather Concreting
ACI 306 Specifications for Cold Weather Concreting
ACI 308 Specifications for Curing Concrete
ACI 309 Consolidation of Concrete
ACI 318 Building Code Requirements for Structural Concrete
- C. American Society for Testing and Material (ASTM)
ASTM C31 Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33 Specification for Concrete Aggregates
ASTM C94 Specification for Ready Mix Concrete
ASTM C143 Test Method for Slump of Hydraulic Concrete
ASTM C150 Specification for Portland Cement
ASTM C156 Standard Test Method for Water Retention by Liquid Membrane Forming Curing Compounds for Concrete
ASTM C171 Specification for Sheet Materials for Curing Concrete

- | | |
|------------|---|
| ASTM C172 | Practice for Sampling Freshly Mixed Concrete |
| ASTM C260 | Specifications for Air Entraining Admixtures for Concrete |
| ASTM C309 | Specification for Liquid Membrane - Forming Compounds for Curing Concrete |
| ASTM C330 | Specification for Lightweight Aggregates for Structural Concrete |
| ASTM C494 | Specification for Chemical Admixtures for Concrete |
| ASTM C567 | Test Method for Determining Density of Structural Lightweight Concrete |
| ASTM C618 | Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete |
| ASTM C881 | Specification for Epoxy - Resin - Base Bonding Systems for Concrete |
| ASTM E1745 | Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs |
- D. American Association of State Highway and Transportation Officials (AASHTO):
M182-60 - Burlap Cloth Made for Jute or Kelat
- E. Standard Specifications For Highway And Bridge Construction New Mexico
Department Of Transportation (NMDOT)
- F. American Institute of Steel Construction (AISC):
Code of Standard Practice for Steel Buildings and Bridges

1.03 SUBMITTALS

- A. Submit under provisions of General Requirements.
- B. Product Data: Provide data form proprietary materials, including admixtures curing materials, and finish materials.
- C. Submit Placement Shop Drawings, showing location of construction joints, clearly indicate the construction joints in different locations that those shown in the Drawings.
- D. Samples: As requested by Testing Laboratory.
- E. Mix design for each concrete mix sealed by an engineer registered in New Mexico. Include compression test data used to establish mix proportions.
- F. Submit certification that the facilities of the ready-mix plant comply with the requirements of ASTM C94.
- G. Material Certificates.
Cementitious materials, including supplemental cementitious material.
Aggregates, including gradation and combined gradation.
Admixtures. Where more than one admixture is proposed, include statement from admixture manufacturer indicating that admixtures

proposed for use are compatible, such that desirable effects of each admixture will be realized.

- H. Submit ticket to Testing Laboratory for each batch of concrete delivered, bearing the following information. Refer to "Field Quality Control" Article of this Section.
 - Mix identification.
 - Weights of cementitious materials, aggregates, water and admixtures, and aggregate size.
- I. Submit test reports from the independent testing agency for review by the City of Raton.

1.04 QUALITY ASSURANCE

- A. Standards: Comply with provisions of ACI 301, except where more stringent requirements are indicated. Evaluation and acceptance of concrete structures will be in accordance with ACI 301.
- B. Concrete Mix Design: Testing Laboratory shall, under direction of its New Mexico registered Civil Engineer, design concrete mixes. Each mix shall bear the signature, seal and registration expiration date of the engineer directing the design work.
- C. Certificates of Compliance: Acceptability of the following materials will be based upon documentation furnished by the manufacturer identifying each batch of material and certifying compliance with the requirements specified:
 - (1) Portland cement.
 - (2) Fly ash.
 - (3) Chemical admixtures.
- D. Certified Laboratory Test Reports: Before delivery of materials submit certified copies of the reports of the tests required in referenced standards or otherwise specified here. The testing shall have been performed by an independent laboratory approved by the City of Raton within one year of submittal of test reports for approval. Test reports on a previously tested material shall be accompanied by notarized certificates from the manufacturer certifying that the previously tested material is of the same type, quality, manufacture and make as that proposed for use in the Project. Certified test reports are required for the following:
 - (1) Portland Cement.
 - (2) Aggregates.
 - (3) Admixtures.
- E. Survey anchor bolts/ rods for accurate placement and alignment prior to casting concrete.

PART 2 PRODUCTS**2.01 CONCRETE MATERIALS**

- A. Cementitious materials and aggregates for exposed concrete shall be from same source throughout the work.
- B. Cementitious Material and Supplementary Cementitious Materials: Reference Section 509.2.2; Standard Specifications For Highway And Bridge Construction - New Mexico Department Of Transportation (Most Recent Edition).
- C. Aggregate for Standard Weight Concrete: Reference Section 509.2.3 – Aggregates; Standard Specifications For Highway And Bridge Construction - New Mexico Department Of Transportation (Most Recent Edition).
- D. Water: Mixing water shall be clean, potable and free from deleterious material, and shall meet the requirements of Section 509.2.5 – Water; Standard Specifications for Highway And Bridge Construction - New Mexico Department Of Transportation (Most Recent Edition).
- E. Admixtures: Reference Section 509.2. 4 - Admixtures; Standard Specifications For Highway And Bridge Construction - New Mexico Department Of Transportation (Most Recent Edition).
 - (1) General:
 - a. Admixtures containing more than 0.05 percent chloride ions are not permitted.
 - b. Where mix contains more than one admixture, all admixtures shall be supplied by one manufacturer. Manufacturer shall certify that admixtures are compatible such that desirable effects of each admixture will be realized.
 - c. Liquid admixtures shall be considered part of the total water.
- F. Water Reducing Admixture: ASTM C494, Type A. Provide in all concrete at necessary dosage to facilitate placement.
- G. Mid to High Range Water Reducing Admixture: ASTM C494, Type F; polycarboxylate formulation. Provide in mid-range or high-range dosage as necessary for placement at the maximum water to cement ratio specified.
- H. Set Accelerating Admixture: ASTM C494, Type E, non-chloride. Subject to written approval of City of Raton Representative, provide in necessary dosage to accelerate set.
- I. Set Retarding Admixture: ASTM C494, Type D. Subject to written approval of City of Raton Representative, provide in necessary dosage to retard set.

2.02 ACCESSORIES

- J. Curing Compounds: ASTM C309, and which will not discolor concrete or affect bonding of other finishes applied thereover, and which restricts loss of water to not more than 0.500 grams per square centimeter of surface when tested per ASTM C156, "Test Method for Water Retention by Concrete Curing Materials."
- K. Slab Curing Membrane: Membrane conforming to ASTM C171, non-staining.
- L. Burlap Sheet: AASHTO M182, class 3 or 4.
- M. Surface Hardener: Lapidolith, Hornolith, Kemi-Kal Liquid or equal.
- N. Vapor Barrier: ASTM D2103, "Polyethylene Film and Sheeting."
- O. Sand Cover: Uniformly graded, clean sand free from excessive fines, organic materials or other deleterious substances.
- P. Form Tie Cone Hole Plugs: Burke Co., Grey, Recessed, Jumbo Cone, "Snaplug", or equal, with waterproof adhesive.
- Q. Embedded Reglets and Dovetail Anchor Slots: 18 gauge galvanized steel.
- R. Bonding Agent: Burke Acrylic Bondcrete, Thorobond or equal.

2.03 CONCRETE MIXES

- A. Reference Section 509.2.7 – Portland Cement Concrete Mix Design; Standard Specifications for Highway And Bridge Construction - New Mexico Department Of Transportation (Most Recent Edition).
- B. Aggregate: Coarse aggregate size number in accordance with ASTM C33 for normal-weight aggregate.
- C. Slump: Minimum-maximum slump at point of placement in inches when tested in accordance with ASTM C143.
- D. Strength: Minimum compressive strength in psi after 28 days, tested in accordance with ASTM C39.
- E. Other Requirements (apply only where indicated in Schedule of Concrete Mixes)
 - Shrinkage Controlled Concrete: Use special coarse aggregates specified.
Select materials and proportion mix to achieve shrinkage less than 0.040 percent (ASTM C157 modified).
 - Water to Cementitious Material Ratio: Mixes shall have a water-to-cementitious-material ratio not exceeding 0.45 by weight.
Weight of water shall include all free moisture, including liquid admixtures. Mixes shall contain specified high range water

reducing admixture at mid-range dosage as required to achieve specified slump.

- F. Proposed mixes shall produce concrete to strengths specified with adequate workability and proper consistency to permit concrete to be worked into forms and around reinforcement without excessive segregation or bleeding.
- G. Mix design shall be subject to review by the City of Raton's Representative and the Testing Laboratory. Submit mixes in a timely manner to allow for review and adjustment, if necessary.
- H. Add air entraining agent to normal weight concrete mix for work exposed to exterior.
- I. For any concrete mix that uses greater than 45% total cementitious material the maximum water-cement ratio shall not exceed 0.38.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify site conditions under provisions of General Provisions.
- B. Verify requirements for concrete cover over reinforcement.
- C. Verify that anchor bolts, embedded plates, reinforcement, sleeves and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

3.02 FORMWORK ERECTION

- A. Verify lines, levels, and measurement before proceeding with formwork.
- B. Hand trim sides and bottom of earth forms; remove loose dirt.
- C. Align form joints.
- D. Do not apply form release agent to concrete surfaces which receive special finishes or applied coatings that may be affected by agent. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

3.03 REINFORCEMENT AND EMBEDDED ITEMS

- A. Place, support, and secure reinforcement and embedded items against displacement.
- B. Installation tolerances for anchor bolts for structural steel columns shall comply with the AISC Code of Standard Practice for Steel Buildings and Bridges requirements for tolerances.
- C. Only items that are dimensionally located on the drawings may be embedded in concrete regardless of the trade responsible for placing them.

3.04 PLACING CONCRETE

- D. Notify the City of Raton at least 48 hours prior to commencement of concreting operations. No concrete shall be placed until all subgrade, formwork, reinforcing steel, embedded items and surfaces against which concrete is to be placed have been accepted by the City of Raton. The rate of delivery, haul time, missing time and hopper capacity shall be such that all mixed concrete delivered shall be placed in forms within 90 minutes from the time of the introduction of cement and water into the mixer. No water shall be added after transit mixer leaves the batching plant without the approval of the City of Raton.
- E. Prepare previously placed concrete by cleaning with steel brush or sandblasting and applying bonding agent in accordance with manufacturer's instruction.
- F. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with epoxy grout.
- G. Foundation surfaces against which concrete is to be placed must be free from standing water, mud and debris. Surfaces shall be clean and free from oil, objectionable coatings, and loose or unsound material.
- H. All surfaces of forms and embedded items shall be free of grout before placing concrete.
- I. Install joint fillers and waterstops in accordance with manufacturer's instructions. Install 1/2-inch thick joint filler to separate slabs on grade from vertical surfaces. Extend joint filler from bottom of slab to within 1/4-inch of finished slab surface.
- J. Locate construction joints where indicated on the Drawings or as designated by Engineer, Owner's Representative or the City of Raton.
- K. When ambient temperature is expected to exceed 80 degrees F during placing or finishing operations, steps shall be taken in accordance with ACI 305, "Recommended Practices for Hot Weather Concreting", to reduce concrete temperature and water evaporation by proper attention to the ingredients, production methods, handling, placing, protection and curing. The Contractor shall submit a detailed hot weather concreting procedure to the A/E for approval at least

two business days before concrete placement is planned. The Project testing agency will produce trial batches in accordance with ACI 305. Slabs will be fog sprayed from the completion of screeding until curing is begun; the fog spray may be discontinued on sections during troweling.

3.05 FLOOR SLABS

- A. Place floor slabs in long strip patterns. Saw cut control joints at an optimum time after finishing. Cut slabs with a 3/16-inch thick blade to 1 inch depth.
- B. Separate slabs on grade from vertical surfaces with joint filler. Extend joint filler from bottom of slab to within ¼ inch of finished slab surface.
- C. Trowel finish surfaces.
- D. Install joint devices and joint device anchors in accordance with manufacturer's instructions. Maintain correct position to allow joint cover flush with floor finish.
- E. Construct slab on grade and shored elevated floor slabs with overall specified F_F30/F_L20 and with minimum F_F15/F_L10 for individual floor sections in accordance with ACI 302.1. Determination of F_F/F_L numbers will be in accordance with ASTM E 1155. The Contractor will take remedial measures when floor slabs do not meet specified requirements. The Contractor's plan for remedial measures shall be submitted to the City of Raton for review and approval. Slope slabs to drains 1/4 inch per foot nominal.

3.06 SCHEDULE OF FORMED SURFACES and FLOOR SLAB FINISHES

Trowel finish at interior floor surfaces.

Trowel finish at exterior floor surfaces

Rough form finish at back-filled walls and foundation elements.

Smooth rubbed finish at exposed wall surfaces.

3.07 CURING AND PROTECTION

- A. Wheeling, working and walking on concrete shall be avoided for at least 24 hours after casting. Protect concrete from sun and rain. Do not permit concrete to become dry during curing period. Concrete shall not be subjected to any loads until concrete is cured for a minimum of ten days, and until concrete has attained 70 percent of the specified compressive strength.
- B. Protect concrete during and after curing from damage during subsequent building construction operations.
- C. Cover traffic areas with plywood or other suitable means for as long as necessary to protect concrete from damage.
- D. Specific curing requirements for slabs shall include the following: Immediately upon completion of finishing operation, the surface of slabs shall be sealed against

moisture loss by the application of a curing blanket made of polyethylene bonded to burlap in accordance with the manufacturer's instructions. Alternatively, waterproof curing paper may be used with edges lapped and sealed with tape. The curing membrane shall be weighted down. Tears and rips in curing membrane shall be repaired immediately during curing period. Curing shall be maintained for 14 days.

- E. Specific curing requirements for walls, beams and columns shall include the following: Concrete in forms shall be kept moist until removal. Immediately upon removal of forms, an approved sprayed-on curing compound shall be applied to the concrete surfaces in strict compliance with the manufacturer's recommendations. Curing shall be maintained for 7 days.

3.09 FIELD QUALITY CONTROL

- A. Inspection and Testing will be performed by Owner's designated personnel under provisions of ASTM C39 ASTM C143 ASTM C1064 ASTM C173 and other applicable provisions
- B. The Contractor will be responsible for all Testing Laboratory costs for investigating low-strength compressive test results.

END OF SECTION

**SECTION 03317
CONCRETE FLOOR JOINT FILLERS**

PART 1 GENERAL

1.01 GENERAL DESCRIPTION OF WORK

- A. Provide all labor, products and equipment required to properly install semi-rigid filler in joints in the interior concrete floor slabs.

1.02 SCOPE OF WORK

- A. Fill all contraction (control) and construction (formed) joints in the interior concrete floor slab where the joints will be exposed.
- B. Refer to drawings for additional joints possibly requiring filler, such as joints under racks, joints at column diamonds and pads, etc. Fill all additional joints as directed by Project Engineer or Owner.

1.03 RELATED WORK

- A. Section 03300 – Cast-In-Place Concrete
- B. Section 07900 – Joint Sealants

1.04 APPLICABLE STANDARDS

- A. Products and installation shall be in compliance or exceed the joint filling criteria established in the latest ACI 302 and ACI 360 Committee published documents.

1.05 CONTRACTOR QUALIFICATIONS

- A. Installer shall have a minimum of three (3) years' experience in the installation of semi-rigid fillers on industrial floors.
- B. Approved Applicator shall use tools and equipment specifically designed for the preparation and placement of industrial joint fillers.

1.06 SUBMITTALS

- A. Joint Filler Materials: Submit Manufacturer's data describing joint filler proposed for use on the project.

- B. Submit Manufacturer's Approved Applicator Certificate.

PART 2 – PRODUCTS

2.01 CONTROL JOINT FILLER:

- A. Provide semi-rigid, two-part, self-leveling, 100% solids content polyurea control and construction joint fillers intended for each condition listed.
- B. Utilize products with physical properties meeting the following minimum values.

PROPERTY	TEST METHOD	PROPERTY	VALUE
Shore A Hardness.....	ASTM D2240.....		64 or greater
Tensile Strength.....	ASTM D638.....		375 psi
Adhesion to Concrete.....	ASTM D4541.....		350 psi
Solids Content.....			100%

- C. Products: Subject to compliance with requirements, provide and apply approved Semi-Rigid Polyurea Joint Filler designed for application to joints in newly placed industrial concrete floor. Product shall be effective at supporting and protecting joint edges from heavy loads and wheel traffic and reducing spalling of the joint edges.

2.02 ACCESSORIES AND EQUIPMENT

- D. Provide approved accessories and equipment including dust free preparation equipment, dust extraction system for grinding/sawing and joint filler removal and preparation materials, equipment and accessories for joint clean-out.

PART 3 – EXECUTION

3.01 PROJECT CONDITIONS

- A. Work area should be free of obstructions and other trades.
- B. Slab should be visibly dry and all floor scrubbing/washing activities should be suspended at least 48 hours prior to filler installation.
- C. Ambient slab temperature should be 32°F or higher.
- D. It is the responsibility of the Contractor/ Installer to protect joint condition prior to filling and to notify Engineer in writing of any deficiencies that might adversely affect the quality or durability of the work performed.

3.02 TIMING OF INSTALLATION

- A. Minimum slab cure time shall be 28 days prior to installation of construction joint filler per ACI 302 to minimize the occurrence of joint filler separation due to excessive joint widening and shrinkage during concrete cure.

3.03 PRE-INSTALLATION SAMPLE

- A. Contractor/ Applicator shall install samples to demonstrate his intended procedures and finished product. Sample shall include at least 25' each of both contraction and construction joints and be performed in the presence of Engineer.
- B. If procedures and finished product are approved by Engineer and Owner, they will be considered a standard for the entire project.

3.04 JOINT PREPARATION

- A. Prior to installation of joint fillers, all saw-cut joints shall be thoroughly cleaned to their full original depth.
- B. Construction joints (formed, through slab) that are not saw-cut shall be cleaned to a minimum depth of 2 inches.
- C. Preparation shall be performed using a vacuum-equipped saw that will reach the base of the saw-cut joint or to a depth of 2 inches in the case of through slab construction joints, and shall be used in a manner that takes both joint walls back to bare concrete, removing all saw laitance, curing compounds, sealers, debris, etc. Joint cleaning may be performed using two cleaning passes, one along each side of the joint. If one cleaning pass is performed, the diamond blade width must be slightly wider than the joint to be cleaned.
- D. Where joints have minor edge chips, said chips shall be "squared off" and filled along with the joint itself. E. Keep prepared joints free of dust, moisture, and jobsite debris prior to filling.

3.05 JOINT FILLER INSTALLATION

- A. Mixing, handling, application and installation of joint fillers shall be performed in conformance with approved manufacturers specifications, recommendations and instructions.
- B. Each designated control or construction joint shall be filled to it's full depth following cleaning with approved joint filler. Backer rod shall not be allowed.
- C. Filling or overfilling shall be performed in accordance with approved

manufacturers specifications, recommendations and instructions, however, underfilling or low spots shall not be permitted.

- D. Quality checks to ensure accuracy of pump dispensing ratio should be performed at regular intervals during the installation process.
- E. Significant deficiencies in workmanship, including inadequate joint cleaning, less than proper filler depth, concave filler profile, and other deficiencies shall be removed and properly replaced at Contractor's expense.
- F. Joint filler installed to depths less than specified in this Section shall be removed and replaced at Contractor's expense. Contractor shall verify proper depth installation by performing test drill at an approximate rate of 1 core every 500 lineal feet at the direction of Engineer. Contractor shall record location of core and filler depth found shall be recorded and provided to the Owner prior to project completion.
- G. Proper curing of filler material shall be provided by Contractor.

END OF SECTION

**SECTION 07900
JOINT SEALERS****PART 1 GENERAL****1.01 DESCRIPTION:**

A. Work under this section is subject to requirements of the Contract Documents including the General Conditions and Supplementary Conditions and applicable portions of General Requirements.

B. The work consists of all labor, material and equipment necessary and required to complete all joint sealers as shown on the drawings and specified herein.

1.02 QUALITY ASSURANCE:

A. Qualifications of Installers: Employ only experienced craftsmen, skilled in the installation of specified products.

B. Single Source Responsibility: Obtain joint sealer materials from a single manufacturer for each different product required.

C. Pre-Construction Field Testing: Prior to installation of joint sealers, field test their adhesion to joint substrates as follows:

1. Locate test joints where indicated or, if not indicated, as directed by Engineer.
2. Conduct field tests for each application indicated below:
 - a. Each type of elastomeric sealer and joint substrate indicated.
 - b. Each type of non-elastomeric sealer and joint substrate indicated.
3. Notify Engineer one week in advance of the dates and times when mock-ups with
be erected.
4. Arrange for tests to take place with joint sealer manufacturer's technical representative present.
5. Test Method: Test joint sealers by hand pull method described below:
 - a. Install joint sealers in 5 feet joint lengths using same materials and methods for joint preparation and joint sealer installation required for completed work. Allow sealers to cure fully before testing.
 - b. Make knife cuts horizontally from one side of joint to the other followed by 2 vertical cuts approximately 2 inches long at side of joint and meeting horizontal cut at top of 2 inch cuts. Place a mark 1 inch from top of 2-inch piece.
 - c. Use fingers to grasp 2 inch piece of sealer just above 1 inch mark, pull firmly down at a 90 degree angle or more while holding a ruler along side of sealer. Pull sealer out of joint to the distance recommended by sealer manufacturer for testing adhesive capability, but not less than that

equaling specified maximum movement capability in extension; hold this position for 10 seconds.

6. Report whether or not sealer in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate.
7. Evaluation of Field Test Results: Sealers not evidencing adhesive failure from testing, in absence of other indications of non-compliance with requirements, will be considered satisfactory. Do not use sealers that fail to adhere to joint substrates during testing.

1.03 REFERENCES:

A. Standards:

1. ASTM C834 - Standard Specifications for Latex Sealing Compounds.
2. ASTM C804 - Recommended Practice for Use of Solvent-Release Type Sealers.
3. ASTM D1056 - Flexible Cellular Materials - Sponge or Expanded Rubber.
4. ASTM C1565 - Flexible Cellular Materials - Vinyl Chloride Polymers and Co-Polymers (Open Cell Foam).
5. ASTM C920 - Standard Specifications for Sealing Compound, Rubber Base, One Component.

- B. Manufacturer's Catalogs: The acceptable manufacturer's catalogs, current at date of bidding documents, are incorporated by reference to the same force and effect as if repeated herein in full.

1.04 SUBMITTALS:

- A. Product Data: Materials description and current printed installation instructions for each product.
- B. Product data from manufacturers for each joint sealer product required.
1. Certification by joint sealer manufacturer that sealers plus the primers and cleaners required for sealer installation comply with local regulations controlling use of volatile organic compounds.
- C. Samples for initial selection purposes in form of manufacturer's standard bead samples, consisting of strips of actual products showing full range of colors available, for each product exposed to view.
- D. Certificates from manufacturers of joint sealers attesting that their products comply with specification requirements and are suitable for the use indicated.
- E. Qualification data complying with requirements specified in "Quality Assurance" article. Include list of completed projects, with project names and addresses, names of Engineers and Owners, plus other information specified.

1.05 DELIVERY, STORAGE AND HANDLING:

- A. Deliver all products in manufacturer's original containers, with seals unbroken, labels, product and manufacturer's names intact and legible.
- B. Store all products in a manner to prevent damage, in a secure place, out of way of construction operations. Provide protection until ready for use.
- C. Handle in accordance with manufacturer's recommendations.

1.06 JOB CONDITIONS:

- A. Weather: Do not install products during adverse weather conditions.
- B. Temperature: Ensure that surface and ambient temperatures are within the range recommended by the manufacturer.
- C. Joint Width Conditions: Do not proceed with installation of joint sealers where joint widths are less than allowed by joint sealer manufacturer for application indicated.
- D. Joint Substrate Conditions: Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from joint substrates.

1.07 WARRANTY:

- A. Contractor's Warranty: 2 years in accordance with General Conditions.

PART 2 - PRODUCTS**2.01 MATERIALS, GENERAL:**

- A. Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealer manufacturer based on testing and field experience.
- B. Colors: Provide color of exposed joint sealers to comply with the following:
 - 1. Provide selections made by Engineer from manufacturer's full range of standard colors for products of type indicated.

2.02 ACCEPTABLE MANUFACTURERS:

- A. Use only the specified products of the following manufacturers (or approved equal):
 - 1. DOW - Dow Chemical Co.

2. DCC - Dow Corning Corp.
3. MEAD - W. R. Meadows, Inc.
4. PECO - Pecora Corp.
5. SON - Sonneborn by BASF Building Systems.
6. TREM - Tremco, Inc. Sealant.
7. GE - General Electric.

2.03 SEALERS (EXTERIOR AND INTERIOR):

- A. S-1: One-component silicone, low-modules, gun grade elastomeric sealer. Use in all joints one inch wide or less wherever movement may occur on interior or exterior, at contraction and expansion joints, masonry to masonry, building construction joints, metal door and window frames to masonry, metal to metal, and metal to masonry.
 1. DCC, 790.
 2. PECO, 864.
 3. TREM, Spectrum 1.
 4. GE, Silglaze N SCS 2501.
- B. S-2: One-component urethane, pour grade, self-leveling elastomeric sealer. Use in interior contraction and expansion joints in slabs.
 1. PECO, Urexpan NR201.
 2. SON, Sonalastic SL1.
 3. TREM, THC-90I.
- C. S-3 Tape Sealer, manufacturer's standard, solvent free, butyl based tape sealer with a solids content of 100 percent formulated to be non-staining, paintable and non-migrating in contact with non-porous surfaces with or without reinforcement thread to prevent stretch and packaged on rolls with a release paper on one side. Use where shown on drawings.
 1. PECO, Extru-Seal Tape.
 2. TREM, 440 Tape.

2.04 SEALERS (INTERIOR ONLY):

- A. C-1: One-part acrylic gun grade. Use where finish painting is required.
 3. PECO, AC-20 Acrylic Latex.
 4. SON, Sonalac Acrylic Latex.
 5. TREM, Acrylic Latex Caulk.
- B. C-2: One-part silicone rubber sealer. Use around plumbing fixtures, perimeter of counters, and where else shown or noted.
 1. DCC, No. 789.
 2. GE, Sanitary SCS 1700.
 3. PECO, 898.
 4. TREM, Tremsic 200.

2.05 JOINT FILLERS:

- A. JF-1: Backer rod for elastomeric sealers. Extruded closed-cell polyethylene foam or polyethylene jacketed polyurethane foam, non-bleeding, non-staining, oversized 30 to 50 percent.
 - 1. DOW, Ethafoam.
 - 2. MEAD, Backer Rod.
 - 3. SON, Sondfoam Backer Rod.

2.06 JOINT CLEANER:

- A. Type recommended by the manufacturer of the sealing or caulking compound for the specific joint surface and condition.

2.07 BOND BREAKER:

- A. Polyethylene tape; pressure sensitive recommended by sealer manufacturer to suit application.

2.08 JOINT PRIMER:

- A. Type recommended by the manufacturer of the sealing or caulking compound for the specific joint surface and condition.

PART 3 - EXECUTION**3.01 INSPECTION:**

- A. Thoroughly inspect all existing construction and the conditions under which the work will be performed. Report to the Engineer in writing all conditions that would adversely affect installation of the work.
- B. Verify that all joint dimensions are in accord with manufacturer's recommendations.
- C. Start of work constitutes acceptance of construction and conditions.

3.02 PREPARATION:

- A. Clean, prepare and size joints in accord with manufacturer's instructions. Remove all loose materials and other foreign matter which might impair adhesion of sealer or caulking.
- B. Prior to installing sealers in horizontal joints where asphalt impregnated expansion joint fillers or other non-polyethylene joint fillers have already been placed, duct tape or polyethylene tape may be placed directly over the existing filler.

3.03 INSTALLATION:

- A. Install sealants for all of the following applications:
1. Exterior joints in the following vertical surfaces and nontraffic horizontal surfaces:
 - a. Joints in dimension stone cladding.
 - b. Joints between different materials.
 - c. Perimeter joints between materials and frames of doors and window.
 - d. Control and expansion joints in ceiling and overhead surfaces.
 - e. Other joints as indicated or as required.
 2. Exterior joints in the following horizontal traffic surfaces:
 - a. Control, expansion, and isolation joints in cast-in-place concrete slabs.
 - b. Joints between different materials.
 - c. Other joints as indicated or as required.
 3. Interior joints in the following vertical surfaces and horizontal nontraffic surfaces:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings.
 - c. Perimeter joints between interior wall surfaces and frames of interior doors and windows.
 - d. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - e. Joints between different materials.
 - f. Other joints as indicated or as required.
 4. Interior joints in the following horizontal traffic surfaces:
 - a. Control and expansion joints in cast-in-place concrete slabs.
 - b. Joints between different materials.
 - c. Other joints as indicated or as required.
- B. Comply with sealer manufacturer's printed instructions. Install sealer backer rod for liquid elastomeric sealers. Install bond breaker tape wherever recommended by manufacturer to ensure that elastomeric sealers will perform properly.
- C. Install sealers and caulking in uniform, continuous ribbons, without gaps or air pockets. Ensure complete "wetting" of the joints. Bond surfaces equally on opposite sides. Fill sealer rabbet to a slightly concave surface, slightly below adjoining surfaces.
- D. Install sealers to depth shown; when not shown, within the following limitations.
1. For joints sealed with elastomeric sealers and subject to traffic and other abrasion and indentation exposures, fill joints to a depth equal to 75 percent of joint width, but not more than 3/4 inch deep or less than 3/8 inch deep.
 2. For normal moving joints sealed with elastomeric sealers but not subject to traffic, fill joints to a depth equal to 50 percent of joint width, but not more than 1/2 inch deep or less than 1/3 inch deep.
 3. For joints sealed with non-elastomeric sealers and caulking compounds, fill joints to a depth in the range of 75 percent or 125 percent of joint width.

- E. Spillage: Do not allow sealers or compounds to overflow or spill onto adjoining surfaces. Use masking tape or other precautionary devices to prevent staining of adjoining surfaces.

3.04 CURING:

- A. Cure sealers and caulking compounds in compliance with manufacturer's instructions to obtain high early bond strength, internal cohesive strength and surface durability.

3.05 CLEANING:

- A. Upon completion, carefully examine all sealer and caulking work. Remove all damaged and defective work and replace with new materials.
- B. Remove all surplus products, containers and rubbish and dispose of off site.
- C. Remove all spilled or spattered materials from all surfaces. When adjacent surfaces or other work has been damaged or stained as a result of sealing and caulking work, repair all damage and remove all stains to the satisfaction of the Engineer.

3.06 PROTECTION:

- A. Protect installed work during remainder of construction period. Ensure that it will be without damage or deterioration (other than normal wear or weathering) at substantial completion.

END OF SECTION

**SECTION 13125
METAL BUILDING SYSTEMS**

PART 1 - GENERAL

Not Used

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 ERECTION

- A. Erector Qualifications: Contractor shall provide an experienced erector who is specialized in erecting and installing work similar in material, design, and extent to that indicated for this Project that has a minimum of 5 years' experience and who is acceptable to the Owner.
- B. Before erection proceeds, survey elevations and locations of concrete bearing surfaces and locations of anchor rods, bearing plates, and other embedments to receive structural framing for compliance with requirements and metal building system manufacturer's tolerances. Proceed with erection only after unsatisfactory conditions have been corrected.
- C. Erect metal building system according to manufacturer's written erection instructions and erection drawings. Do not field cut, drill, or alter structural members without written approval from metal building system manufacturer's professional engineer.
- D. Set structural framing accurately in locations and to elevations indicated, according to applicable AISC specifications. Maintain structural stability of frame during erection.
- E. Provide temporary shores, guys, braces, and other supports during erection to keep structural framing secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural framing, connections, and bracing are in place, unless otherwise indicated.
- F. Setting Baseplates and Bearing Plates: Clean concrete and masonry of bond-reducing materials and roughen surfaces before setting baseplates and bearing plates. Clean bottom surface of baseplates and bearing plates.
 - 1) Set baseplates and bearing plates for structural members on wedges, shims,

- 2) Tighten anchor bolts after supported members have been positioned and plumbed.
 - 3) Bolted connections will be visually inspected. High-strength, field-bolted connections will be tested and verified according to procedures in RCSC's "Load and Resistance Factor Design Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
 - 4) Pack grout solidly between bearing surfaces and plates so no voids remain. Provide shrinkage-resistant grout: premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, of consistency suitable for application, with a 30-minute working time. Moist cure grout for not less than seven days after placement.
- G. Set structural framing in locations and to elevations indicated and according to applicable AISC specifications.
- 1) Primary Framing and End Walls: Erect framing true to line, level, plumb, rigid, and secure. Level baseplates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts.
 - 2) Make field connections for primary framing using high-strength bolts. Tighten bolts by turn-of-the-nut method.
 - 3) Fasten secondary framing to primary framing using clips and non-high-strength bolts. Hold rigidly to a straight line by sag rods.
 - 4) Install joists, girders, and accessories according to SJI's "Standard Specifications, Load Tables, and Weight Tables for Steel Joists and Joist Girders."
 - 5) Maintain erection tolerances of structural framing within AISC 303.
 - 6) Provide supplemental framing at entire perimeter of openings, including doors, windows, louvers, ventilators, and other penetrations of roof and walls.
 - 7) Locate and space wall girts to suit door and window arrangements and heights.
 - 8) Install bracing in roof and sidewalls where indicated on erection drawings. Tighten rod and cable bracing to avoid sag.
 - 9) Field cutting by torch is not permitted.
- H. Roof Panel Installation: Provide roof panels of full length from eave to ridge when possible.
- 1) Install metal roof panels of full length from eave to ridge in orientation, sizes, and locations indicated on Drawings concurrently with metal building insulation system unless otherwise indicated.
 - 2) Rigidly fasten eave end of roof panels and allow ridge end free movement.
 - 3) Install screws with power tools having controlled torque to compress neoprene washer without damage to washer, screw threads, or panels. Install screws in predrilled holes.
 - 4) Use aluminum or stainless-steel fasteners for exterior and galvanized fasteners for interior.
 - 5) Locate panel splices over, but not attached to, structural supports; stagger panel splices.
 - 6) Standing-Seam Roof Panels: Fasten to purlins with concealed clips at each standing seam joint. Install clips over top of insulation. Crimp standing seams

- with manufacturer approved motorized seamer tool. At end splices, lap panels 6 inches, seal with butyl sealant and fasten together with interlocking clamping plates.
- 7) Lap-Seam Roof Panels: Fasten to purlins with exposed fasteners at each lapped joint. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Avoid "panel creep" or application not true to line. Apply a continuous ribbon of sealant tape to weather-side surface of fastenings on lap seams. At end splices, lap panels 6 inches, seal with butyl sealant and fasten together with interlocking clamping plates.
 - 8) Install ridge caps as roof panel work proceeds. Provide weatherseal under ridge cap. Flash and seal roof panels with weather closures at eaves, rakes, and at perimeter of all openings. Fasten with self-tapping screws.
 - 9) Roof Panel Installation Tolerances: Shim and align units within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- I. Wall Panel Installation: Provide panels full height of building when possible.
- 1) Install metal wall panels in orientation, sizes, and locations indicated on Drawings concurrently with metal building insulation system. Install panels perpendicular to girts, extending full height of building, unless otherwise indicated. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 2) Install wall panels on exterior side of girts. Attach panels to supports with fasteners as recommended by manufacturer.
 - 3) Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints.
 - 4) When two rows of panels are required, lap panels 4 inches minimum. Locate panel splices over structural supports.
 - 5) Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete, and elsewhere as necessary for waterproofing.
 - 6) Apply a continuous ribbon of sealant tape to weather-side surface of fastenings on lap seams.
 - 7) Install screws with power tools having controlled torque to compress neoprene washer without damage to washer, screw threads, or panels. Install screws in predrilled holes.
 - 8) Use aluminum or stainless-steel fasteners for exterior and galvanized fasteners for interior.
 - 9) Wall Panel Installation Tolerances: Shim and align units within installed tolerance of 1/4 inch in 20 feet on level, plumb, and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- J. Translucent Panel Installation: Attach plastic panels to structural framing with end laps of not less than 6 inches for roof panels and 4 inches for wall panels and side laps of not less than 1-1/2-inch. Seal with translucent mastic.
- K. Gutters, Downspouts, Flashing, and Trim Installation: Comply with SMACNA's "Architectural Sheet Metal Manual." Provide for thermal expansion; conceal fasteners where possible, and set units true to line and level. Install work with laps and seams that will be permanently watertight.

- L. Insulation Installation: Install insulation concurrently with panel installation. Set vapor-retarder faced units with vapor retarder to warm side of construction. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to surrounding construction to ensure airtight installation.
- 1) Over-Framing Installation: Extend over and perpendicular to top flange of secondary framing members. Hold in place by panels fastened to secondary framing.
 - 2) Between-Purlin Installation: Extend between purlins. Carry facing up and over purlin, overlapping adjoining facing. Hold in place with bands and crossbands below insulation.
 - 3) Over-Purlin-with-Spacer-Block Installation: Extend over and perpendicular to top flange of secondary framing members. Install layer of unfaced insulation over first layer to fill space formed by roof panel standoffs. Hold in place by panels fastened to standoffs.
 - 4) Two-Layers-between-Purlin-with-Spacer-Block Installation: Extend between purlins. Carry facing up and over purlin, overlapping adjoining facing. Install layer of unfaced insulation over first layer to fill space between purlins formed by thermal spacer blocks. Hold in place with bands and crossbands below insulation.
- M. Accessory Installation: As follows:
- 1) Panel Sealants: Provide and install the following:
 - a) Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
 - b) Joint Sealant: ASTM C 920; one-part elastomeric polyurethane, polysulfide, or silicone-rubber sealant; of type, grade, class, and use classifications required to seal joints in panels and remain weathertight; and as recommended by metal building system manufacturer that meet or exceed Federal Specification TT-s-00230C, Type II, Class A.
 - 2) Seal perimeter of door frames with elastomeric sealant used for panels.
 - 3) Install personnel doors and frames straight, level, and plumb. Securely anchor frames to building structure. Set units with maximum 1/8-inch clearance between door and frame at jambs and head and maximum 3/4-inch clearance between door and floor.
 - 4) Sliding Service Door Installation: Bolt support angles to opening head members. Bolt door tracks to support angles at maximum 24 inches o.c. Set doors and operating equipment with necessary hardware, stops, and continuous hood flashing.
 - 5) Install windows level, plumb, and true to line, without warp or rack, anchored securely in place. Set sill members in a bed of sealant and seal perimeter of each unit.
 - 6) Pipe Flashing: Form flashing around pipe penetrations. Fasten and seal to panels.
 - 7) Adjust and check each operating item of hardware to ensure proper operation and function. Replace units that cannot be adjusted to operate freely and smoothly.

N. Cleaning and Protection

- 1) Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
 - 2) Touchup Painting: After erection, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted structural framing, bearing plates, and accessories.
 - a. Clean and prepare surfaces by SSPC-SP, "Hand Tool Cleaning," or SSPC-SP "Power Tool Cleaning"
 - b. Apply a compatible primer of same type as shop primer used on adjacent surfaces.
 - 3) Touchup Painting: Cleaning and touchup painting as necessary and as specified by Manufacturer.
 - 4) Metal Panels: Remove temporary protective coverings and strippable films, if any, as metal panels are installed. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.
- O. Note that code/OSHA required Fall Protection is the responsibility of constructing contractor.

END OF SECTION